

**Koyo**<sup>®</sup>

# JHS Series Spherical Roller Bearings



**JTEKT**  
JTEKT CORPORATION

**JTEKT**  
Koyo | TOYODA



***Ultrahigh functionality bearings  
for revolutionizing industrial  
machinery and equipment.  
This is the JHS Series.***

Aiming to ensure extremely high performance, we utilize advanced designs and processing technologies in the development of new materials.

Improved roller fatigue life. Superior toughness and corrosion resistance. Moreover, compared to other bearings, the JTEKT Hyper Strong (JHS) Series is a new-generation bearing providing unparalleled high capacity, abrasion resistance and high-speed performance.

JHS bearings support faster innovation, improvement and streamlining at manufacturing sites everywhere.







## Hyper functionality worthy of the JHS Series name. New lineup of Spherical Roller Bearings

More compact, yet same capacity. Same size, but faster and longer service life. Additionally, the load on the cooling system has been reduced. We are also responding to a variety of needs such as improving quality and productivity onsite, streamlining and saving energy.



# JHS Series Spherical Roller Bearings



JHS Series Spherical Roller Bearings are designed to satisfy the demanding needs of our customers. Manufactured using innovative materials, an optimal internal design and a standardized dimension stabilizing treatment, these bearings have a longer service life, faster rotation speed, enhanced axial load performance and can be used in high-temperature applications.

## Innovative materials

**Longer service life through cleaner bearing materials**  
Bearing service life increased by through careful selection and management of materials

## Optimal internal design

### ① Dynamic load rating/static load rating increased through design optimization

JHS Series compared to existing products

Dynamic load rating

**Max. 1.15 times**  
(compared to our existing products)

Static load rating

**Max. 1.30 times**  
(compared to our existing products)

### ② Roller position stabilized

### ► Service life increased through improved lubrication ability

Rising bearing temperature suppressed through roller position stability

**Longer service life**

**Max. 4 times**  
(compared to our existing products)

**Speed increased**

Permissible rotation speed  
**Max. 25%UP**  
(compared to our existing products)

**Axial load performance**

**Max. 20%UP**  
(compared to our existing products)

**High-temp use**

up to **200°C**

Bearing composition diagram

### Outer ring

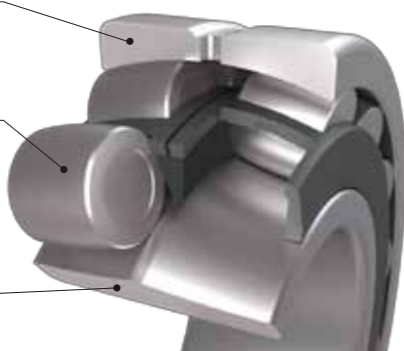
- JTEKT specification steel

### Roller

- Roller maximized
- Number of rollers increased
- Roller position stabilized

### Inner ring

- JTEKT specification steel



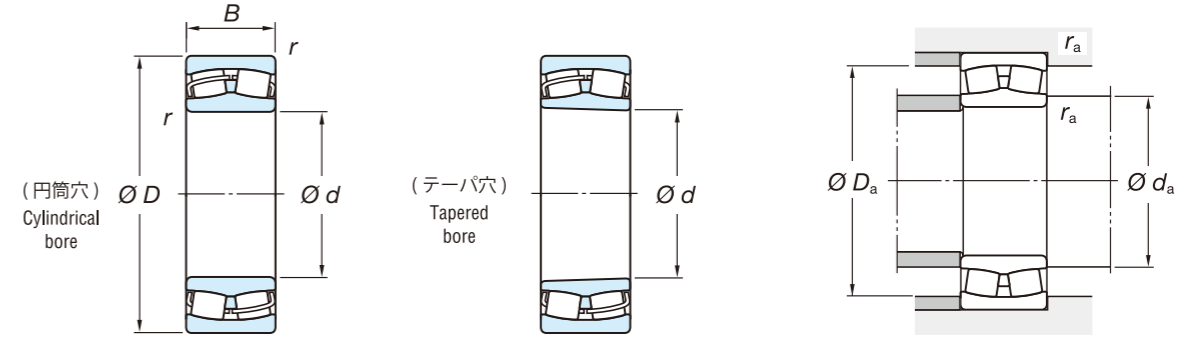
## High-temperature applications supported

Standard for dimension stabilizing treatment introduced, realizing applicability in temperatures as high as 200°C and thereby enabling use in a wide variety of environments.



# JHS 自動調心ころ軸受の寸法表

## Dimensions tables of JHS Series Spherical Roller Bearings



$\phi d25 \sim d95\text{mm}$

主要寸法 Boundary dimensions (mm)				基本定格荷重 Basic load ratings (kN)		疲労限荷重 Fatigue load limit (kN)	許容回転速度 Limiting speeds (min <sup>-1</sup> )		呼び番号 Bearing no.		取付関係寸法 Mounting dimensions (mm)					定数 Constant	アキシャル荷重係数 Axial load factors			(参考)質量 (Refer) Mass (kg)	
$d$	$D$	$B$	$r$ (最小) min.	$C_r$	$C_{Or}$	$C_u$	(グリース潤滑) Grease lub.	(油潤滑) Oil lub.	(円筒穴) Cylindrical bore	(テーパ穴) Tapered bore	$d_a$ (最小) min.	$d_a$ (最大) max.	$D_a$ (最大) max.	$D_a$ (最小) min.	$r_a$ (最大) max.	$e$	$Y_1$	$Y_2$	$Y_0$	(円筒穴) Cylindrical bore	(テーパ穴) Tapered bore
25	52	18	1	56.8	48.1	3.90	9 600	12 800	22205RZ	22205RZK	31	31	46	46	1	0.35	1.91	2.85	1.87	0.188	0.184
30	62	20	1	76.5	65.9	5.30	8 100	10 900	22206RZ	22206RZK	36	36	56	56	1	0.33	2.04	3.04	2.00	0.296	0.29
	72	19	1.1	74.2	62.7	4.80	7 200	9 600	21306RZ	21306RZK	37	41	65	62	1	0.27	2.49	3.71	2.43	0.43	0.424
35	72	23	1.1	100	88.7	7.75	6 900	9 200	22207RZ	22207RZK	42	42	65	64	1	0.32	2.09	3.11	2.04	0.459	0.449
	80	21	1.5	87	75.8	5.90	6 200	8 300	21307RZ	21307RZK	44	46	71	69	1.5	0.27	2.49	3.71	2.43	0.572	0.564
40	80	23	1.1	114	102	9.55	6 200	8 300	22208RZ	22208RZK	47	49	73	73	1	0.28	2.37	3.53	2.32	0.602	0.591
	90	23	1.5	105	92.8	7.55	5 600	7 600	21308RZ	21308RZK	49	53	81	77	1.5	0.26	2.55	3.80	2.50	0.781	0.77
	90	33	1.5	170	152	11.8	5 600	7 600	22308RZ	22308RZK	49	51	81	79	1.5	0.37	1.83	2.72	1.79	1.08	1.06
45	85	23	1.1	120	110	10.2	5 800	7 700	22209RZ	22209RZK	52	53	78	78	1	0.26	2.55	3.80	2.50	0.602	0.59
	100	25	1.5	132	121	10.0	5 000	6 700	21309RZ	21309RZK	54	60	91	86	1.5	0.26	2.62	3.90	2.56	1.05	1.04
	100	36	1.5	208	183	13.8	5 100	6 700	22309RZ	22309RZK	54	55	91	87	1.5	0.37	1.83	2.72	1.79	1.42	1.39
50	90	23	1.1	128	122	12.7	5 400	7 200	22210RZ	22210RZK	57	58	83	83	1	0.24	2.79	4.15	2.73	0.648	0.634
	110	27	2	157	147	12.0	4 500	6 100	21310RZ	21310RZK	60	67	100	95	2	0.25	2.71	4.04	2.65	1.37	1.35
	110	40	2	255	237	17.5	4 500	6 200	22310RZ	22310RZK	60	62	100	96	2	0.36	1.85	2.76	1.81	1.92	1.88
55	100	25	1.5	155	144	15.0	4 700	6 300	22211RZ	22211RZK	64	64	91	91	1.5	0.24	2.84	4.23	2.78	0.867	0.849
	120	29	2	181	165	13.0	4 100	5 600	21311RZ	21311RZK	65	71	110	102	2	0.25	2.71	4.03	2.65	1.69	1.67
	120	43	2	295	264	21.1	4 100	5 500	22311RZ	22311RZK	65	66	110	104	2	0.36	1.85	2.76	1.81	2.4	2.35
60	110	28	1.5	191	181	18.7	4 300	5 800	22212RZ	22212RZK	69	70	101	100	1.5	0.25	2.74	4.08	2.68	1.19	1.17
	130	31	2.1	210	193	15.1	3 900	5 100	21312RZ	21312RZK	72	77	118	110	2	0.24	2.78	4.14	2.72	2.11	2.08
	130	46	2.1	354	334	24.9	3 900	5 100	22312RZ	22312RZK	72	73	118	113	2	0.36	1.86	2.77	1.82	3.06	2.99
65	120	31	1.5	223	211	20.7	4 000	5 200	22213RZ	22213RZK	74	76	111	109	1.5	0.25	2.69	4.00	2.63	1.55	1.52
	140	33	2.1	242	232	19.8	3 600	4 700	21313RZ	21313RZK	77	85	128	119	2	0.24	2.83	4.21	2.76	2.62	2.58
	140	48	2.1	382	360	30.8	3 600	4 700	22313RZ	22313RZK	77	79	128	122	2	0.34	1.98	2.94	1.93	3.66	3.58
70	125	31	1.5	233	222	24.4	3 700	5 000	22214RZ	22214RZK	79	80	116	114	1.5	0.24	2.87	4.27	2.80	1.64	1.61
	150	35	2.1	269	260	21.6	3 300	4 400	21314RZ	21314RZK	82	91	138	127	2	0.24	2.84	4.23	2.78	3.19	3.15
	150	51	2.1	434	413	35.0	3 300	4 400	22314RZ	22314RZK	82	85	138	131	2	0.34	1.98	2.94	1.93	4.45	4.36
75	130	31	1.5	241	236	28.2	3 600	4 700	22215RZ	22215RZK	84	85	121	119	1.5	0.22	3.07	4.57	3.00	1.73	1.69
	160	37	2.1	307	298	24.3	3 000	4 100	21315RZ	21315RZK	87	98	148	138	2	0.24	2.87	4.27	2.80	3.81	3.76
	160	55	2.1	492	473	38.4	3 000	4 100	22315RZ	22315RZK	87	91	148	140	2	0.35	1.95	2.90	1.91	5.45	5.33
80	140	33	2	271	271	30.5	3 300	4 400	22216RZ	22216RZK	90	92	130	128	2	0.22	3.07	4.57	3.00	2.17	2.13
	140	44.4	2	305	342	31.2	3 300	4 400	23216RZ	23216RZK	90	93	130	124	2	0.29	2.35	3.50	2.30	2.95	2.86
	170	39	2.1	344	339	27.5	2 900	3 900	21316RZ	21316RZK	92	104	158	146	2	0.23	2.88	4.29	2.82	4.53	4.47
	170	58	2.1	539	521	41.7	2 900	3 900	22316RZ	22316RZK	92	97	158	148	2	0.35	1.95	2.90	1.91	6.44	6.3
85	150	36	2	322	324	35.7	3 000	4 100	22217RZ	22217RZK	95	97	140	137	2	0.22	3.01	4.48	2.94	2.75	2.69
	150	49.2	2	358	410	36.2	3 000	4 100	23217RZ	23217RZK	95	99	140	134	2	0.30	2.25	3.34	2.20	3.78	3.67
	180	41	3	375	372	29.6	2 800	3 600	21317RZ	21317RZK	99	109	166	154	2.5	0.23	2.89	4.33	2.83	5.32	5.25
	180	60	3	601	586	47.8	2 800	3 600	22317RZ	22317RZK	99	103	166	157	2.5	0.33	2.02	3.00	1.97	7.47	7.31
90	160	40	2	373	381	39.2	2 900	3 900	22218RZ	22218RZK	100	104	150	145	2	0.24	2.79	4.15	2.73	3.5	3.43
	160	52.4	2	420	482	42.9	2 900	3 900	23218RZ	23218RZK	100	103	150	141	2	0.32	2.14	3.19	2.09	4.63	4.5
	190	43	3	413	416	32.9	2 600	3 400	21318RZ	21318RZK	104	116	176	162	2.5	0.23	2.91	4.30	2.84	6.2	6.11
	190	64	3	672	662	50.5	2 600	3 400	22318RZ	22318RZK	104	108	176	166	2.5	0.34	2.00	2.98	1.96	8.82	8.63
95	170	43	2.1	418	422	42.7	2 800	3 600	22219RZ	22219RZK	107	109	158	154	2	0.24	2.76	4.11	2.70	4.24	4.15
	170	55.6	2.1	457	516	43.9	2 800	3 600	23219RZ	23219RZK	107	110	158	150	2	0.30	2.25	3.34	2.20	5.5	5.35
	200	45	3	453	461	36.3	2 500	3 200	21319RZ	21319RZK	109	123	186	171	2.5	0.23	2.92	4.35	2.86	7.16	7.06
	200	67	3	733	726	55.6	2 500	3 200	22319RZ	22319RZK	109	114	186	174	2.5	0.33	2.02	3.00	1.97	10.2	9.98



## OFFICES

### KOYO CANADA INC.

5324 South Service Road, Burlington, Ontario L7L 5H5, CANADA  
TEL : 1-905-681-1121  
FAX : 1-905-681-1392

### JTEKT NORTH AMERICA CORPORATION

#### -Main Office-

47771 Halyard Drive, Plymouth, MI 48170, U.S.A.  
TEL : 1-734-454-1500  
FAX : 1-734-454-7059

#### -Cleveland Office-

29570 Clemens Road, P.O.Box 45028, Westlake,  
OH 44145, U.S.A.  
TEL : 1-440-835-1000  
FAX : 1-440-835-9347

### KOYO MEXICANA, S.A. DE C.V.

Av. Insurgentes Sur 2376-505, Col. Chimalistac, Del. Álvaro  
Obregón, C.P. 01070, México, D.F.  
TEL : 52-55-5207-3860  
FAX : 52-55-5207-3873

### KOYO LATIN AMERICA, S.A.

Edificio Banco del Pacifico Planta Baja, Calle Aquilino de la  
Guardia y Calle 52, Panama, REPUBLICA DE PANAMA  
TEL : 507-208-5900  
FAX : 507-264-2782/507-269-7578

### KOYO ROLAMENTOS DO BRASIL LTDA.

Avenida Reboucas, 2472 Jardim America, CEP 05402-300 São  
Paulo, BRAZIL  
TEL : 55-11-3372-7500  
FAX : 55-11-3887-3039

### KOYO MIDDLE EAST FZCO

6EA 601, Dubai Airport Free Zone, P.O. Box 54816, Dubai,  
U.A.E.  
TEL : 97-1-4299-3600  
FAX : 97-1-4299-3700

### KOYO BEARINGS INDIA PVT. LTD.

C/o Stylus Commercial Services PVT LTD, Ground Floor, The  
Beech, E-1, Manyata Embassy Business Park, Outer Ring Road,  
Bengaluru-560045, INDIA  
TEL : 91-80-4276-4567 (Reception Desk of Service Office)  
FAX : 91-80-4276-4568

### JTEKT (THAILAND) CO., LTD.

172/1 Moo 12 Tambol Bangwua, Amphur Bangpakong,  
Chachoengsao 24180, THAILAND  
TEL : 66-38-533-310~7  
FAX : 66-38-532-776

### PT. JTEKT INDONESIA

Jl. Surya Madya Plot I-27b, Kawasan Industri Surya Cipta,  
Kutanegara, Ciampel, Karawang Jawa Barat, 41363 Indonesia  
TEL : 62-267-8610-270  
FAX : 62-267-8610-271

### KOYO SINGAPORE BEARING (PTE.) LTD.

27, Penjuru Lane, Level 5, Phase 1 Warehouse #05-01.  
SINGAPORE 609195  
TEL : 65-6274-2200  
FAX : 65-6862-1623

### PHILIPPINE KOYO BEARING CORPORATION

6th Floor, One World Square Building, #10 Upper McKinley  
Road, McKinley Town Center Fort Bonifacio, 1634 Taguig City,  
PHILIPPINES  
TEL : 63-2-856-5046/5047  
FAX : 63-2-856-5045

### JTEKT KOREA CO., LTD.

Seong-do Bldg 13F, 207, Dosan-Dearo, Gangnam-Gu, Seoul,  
KOREA  
TEL : 82-2-549-7922  
FAX : 82-2-549-7923

### JTEKT (CHINA) CO., LTD.

Room.25A2, V-CAPITAL Building, 333 Xianxia Road, Changning  
District, Shanghai 200336, CHINA  
TEL : 86-21-5178-1000  
FAX : 86-21-5178-1008

### KOYO AUSTRALIA PTY. LTD.

Unit 2, 8 Hill Road, Homebush Bay, NSW 2127, AUSTRALIA  
TEL : 61-2-8719-5300  
FAX : 61-2-8719-5333

### JTEKT EUROPE BEARINGS B.V.

Markerkant 13-01, 1314 AL Almere, THE NETHERLANDS  
TEL : 31-36-5383333  
FAX : 31-36-5347212

#### -Benelux Branch Office-

Energieweg 10a, 2964 LE, Groot-Ammers, THE NETHERLANDS  
TEL : 31-184606800  
FAX : 31-184606857

### KOYO KULLAGER SCANDINAVIA A.B.

Johanneslundsvägen 4, 194 61 Upplands Väsby, SWEDEN  
TEL : 46-8-594-212-10  
FAX : 46-8-594-212-29

### KOYO (U.K.) LIMITED

Whitehall Avenue, Kingston, Milton Keynes MK10 0AX,  
UNITED KINGDOM  
TEL : 44-1908-289300  
FAX : 44-1908-289333

### KOYO DEUTSCHLAND GMBH

Bargkoppelweg 4, D-22145 Hamburg, GERMANY  
TEL : 49-40-67-9090-0  
FAX : 49-40-67-9203-0

### KOYO FRANCE S.A.

6 avenue du Marais, BP20189, 95105 Argenteuil, FRANCE  
TEL : 33-1-3998-4202  
FAX : 33-1-3998-4244/4249

### KOYO IBERICA, S.L.

Avda.de la Industria, 52-2 izda 28820 Coslada Madrid, SPAIN  
TEL : 34-91-329-0818  
FAX : 34-91-747-1194

### KOYO ITALIA S.R.L.

Via Stephenson 43/a 20157 Milano, ITALY  
TEL : 39-02-2951-0844  
FAX : 39-02-2951-0954

#### -Romanian Representative Office-

24, Lister Street, ap. 1, sector 5, Bucharest, ROMANIA  
TEL : 40-21-410-4182  
FAX : 40-21-410-1178

## PUBLISHER

### JTEKT CORPORATION NAGOYA HEAD OFFICE

No.7-1, Meieki 4-chome, Nakamura-ku, Nagoya, Aichi 450-8515, JAPAN TEL:81-52-527-1900 FAX:81-52-527-1911

### JTEKT CORPORATION OSAKA HEAD OFFICE

No.5-8, Minamisemba 3-chome, Chuo-ku, Osaka 542-8502, JAPAN TEL:81-6-6271-8451 FAX:81-6-6245-3712

### Sales & Marketing Headquarters

No.5-8, Minamisemba 3-chome, Chuo-ku, Osaka 542-8502, JAPAN TEL:81-6-6245-6087 FAX:81-6-6244-9007

## Value & Technology

