



**CSC**  
CSC Bearing Europe GmbH

## SUPER PRECISION BEARINGS

SPINDLE BEARINGS

ZKLN & ZKLF

ZARN & ZARF

RTC & NN30 SERIES

# Welcome to CSC | Headquarter Europe



# Welcome to CSC in Europe

CSC is a global manufacturer of bearings with a turnover of almost 100 Mio USD worldwide. As a certified supplier in all areas of industry CSC is looking back on more than 50 years of successful corporate history.

In our own 130.000 m<sup>2</sup> plant we are producing high performance bearings with a quality according to European standards for all fields of industry. A 2<sup>nd</sup> factory with another 25.000 m<sup>2</sup> will be finished by the end of 2021 – focusing mainly on super precision bearings.

As a reliable producer, we permanently monitor and audit all processes to guarantee highest quality. CSC production is certified according to DIN-EN-ISO 9001:2000 and ISO/TS 16949:2002.

CSC bearings are used by famous producers of drives, gearboxes, main spindles, machine tool spindles, machines for construction, etc.

For super precision bearings like the series B719xx, B70xx, B72xx as well as HCB – hybrid version and NN30xx we are continuously enlarging the stock in our European CSC Headquarter to realize short delivery times. With focus on the machine tool industry we also have ball screw support bearings of the series BSB, 760xx, ZKLN/ZKLF and ZARN/ZARF as well as bearings for rotary tables and spindle heads (comparable to YRT) in our product program.



A own R&D center and a warehouse in Germany guarantee high performance, great support, fast logistics, maximal comfort and the highest level of support for you as a customer. Not just bearings – CSC offers a variety of engineering services to support the development of perfect solutions for customer's needs.

## Designed in Germany

In recent years, CSC has transferred the design and construction – especially of spindle bearings – to Germany. German engineers with decades of experience in bearing-design develop products for the world market. CSC products follow the DIN ISO guidelines in order to achieve fast testing and approval processes at the customer's site.

Besides the design feature "made in Germany", good equipment is also very important. CSC buys production and testing equipment from leading manufacturers such as G&N, Thielenhaus, Hembrug or AICHELIN, to name just a few. High performance equipment is essential for CSC to produce continuously high quality and meet international standards.

# CSC what can we do for you?

Fast delivery times, low minimum order quantities, and customized bearing designs are always possible at CSC.

These include special seals, customer-specific materials, a variety of different greases as well as more complex adjustments such as individual ring shapes or special contact angles for angular contact ball bearings.

Continuous development and optimizations are firmly established processes at CSC. Our standard are bearings with low noise level, reduced friction and maximum efficiency to contribute to more energy-saving applications, for example.

## AVAILABILITY

In our European warehouse, located in Germany, we have many items available from stock. Shipment all around Europe with super fast parcel services.

Please ask for our stock list or subscribe to our monthly stock mail.



**Technical Support**



**Customized Solutions**



**High Availability**

In order to ensure a comprehensive quality control, the measuring equipment was "mirrored": Identical high-precision measuring instruments are used in production in Asia as well as in the CSC Center in Germany.

The success of the investment in quality is evident from the comprehensive certifications. In addition to DIN ISO 9001, DIN ISO 14001, CSC is also certified to IATF 16949, AS9100D and AS9104/1:2012.



**CSC Highest Precision**

# CSC LAB GERMANY

# Product range | Dimensions | Materials

Highest quality at attractive prices.

CSC manufactures from a bore of 10 mm up to an outer diameter of 300 mm.

Different materials such as GCr15 / 100Cr6, 440C, 420 or Cronidur are available at CSC. The main focus is on precise, low-noise bearings with high load ratings that are used in many industrial applications such as electric motors, gears, motor spindles or in robotics.

Deep groove ball bearings, the series 60..., 62..., 63... , angular contact ball bearings, ball screw support bearings as well as rotary table bearings are also part of the product portfolio.

## Focus on super precision bearings

A major focus is in the area of spindle bearings. Especially for the European market there is a comprehensive stock of immediately available items.

The series B70xx, B72xx, B718xx, B719xx are offered with steel as well as with ceramic balls (HCB70xx, HCB72xx, HCB718xx, HCB719xx) as open and sealed versions.

ZKLF, ZKLN, ZKLFA, ZARN, ZARF and bearings of series NN complete the product portfolio in the field of super precision bearings.

CSC supplies to well-known international companies and is worldwide known as a reliable partner in terms of quality and delivery reliability.



**New additional CSC factory for super precision bearings**

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## CSC Bearing Europe GmbH

R&D Center in Wiesentheid  
 Technical Support  
 Sales & Marketing

Application Engineering  
 Testing & Measurement Lab  
 Warehousing & Logistics

[www.csc-bearing.eu](http://www.csc-bearing.eu)



# Super Precision Angular Contact Ball Bearings (ACBB)

CSC super precision angular contact ball bearings (spindle bearings) are designed for highest accuracy applications, lowest noise-level and low-vibration. Due to the angular contact design they can take high axial forces from one direction as well as radial forces and can be installed in bearing arrangements to withstand axial forces from both sides.

CSC spindle bearings are available with three different contact angles:

C = 15° for higher radial loads

D = 18° for higher radial loads

E = 25° for higher axial loads

Customized contact angles can be produced on request.

CSC spindle bearing dimensions are produced in P4S as standard quality (B718.. series in P4).

Higher levels like P2 or special requests like K5 are also available.



## Bearing materials

The performance and reliability required from high-precision bearings implies the use of adequate materials for rings, rolling elements and cages.

### All-steel bearings

Steels used for high-precision bearing rings and rolling elements are capable of being adequately hardened and have high fatigue strength and wear resistance. Moreover they have the structural and dimensional stability to satisfy the spindle operating temperatures. CSC high-precision bearing rings and rolling elements are generally made of through-hardened carbon chromium steel

### Hybrid Bearings

Machine tools, especially machining centers, can have higher machining efficiencies and higher machining accuracies when operated at higher speeds. For this reason, there have been ever-greater demands for higher speed performance of their spindle bearings. If the performance required is close to all-steel bearing limits, or if higher rigidity or longer life are needed, hybrid high precision bearings can be used. Hybrid high-precision bearings consist of outer and inner rings made of bearing steel and ceramic (silicon nitride Si<sub>3</sub>N<sub>4</sub>) rolling elements.

Comparing with steel rolling elements, ceramic rolling elements have following benefit :

- Lower heat generation
- A density as light as 40% of bearing steel, thus centrifugal forces of rolling elements is reduced
- The thermal expansion is lower
- A great rigidity, which is more suitable for machine tools
- Better resistance to damage

Due to these reasons, the service life of the bearings is extended.

## Material for cages

The main purpose of the cage is to keep the rolling elements at an appropriate distance from each other and to prevent immediate contact between two neighbouring rolling elements, in order to keep friction and consequently heat generation at a minimum. Materials and the shape of cages for high-precision bearings have been developed parallel to the development of the bearings and to the requirements they have to satisfy.

High-precision bearing cages are mechanically stressed by frictional strain and inertia forces. They might also be subjected to chemical action of certain lubricants and the influence of usage temperature. Thus, the design and choice of material are of paramount importance for the performance of the cage, as well as for the operational reliability of the bearing as a whole.

### Phenolic resin cage

This material is lightweight resulting in minimal centrifugal forces and having the capability of retaining part of the lubricant, ensuring optimum lubrication. Fabric reinforced phenolic resin cages should not be used at temperatures exceeding 80°C for a long term. It can be able to bear the instantaneous temperature of 120 degrees. Phenolic cages have a very good high-speed capability.

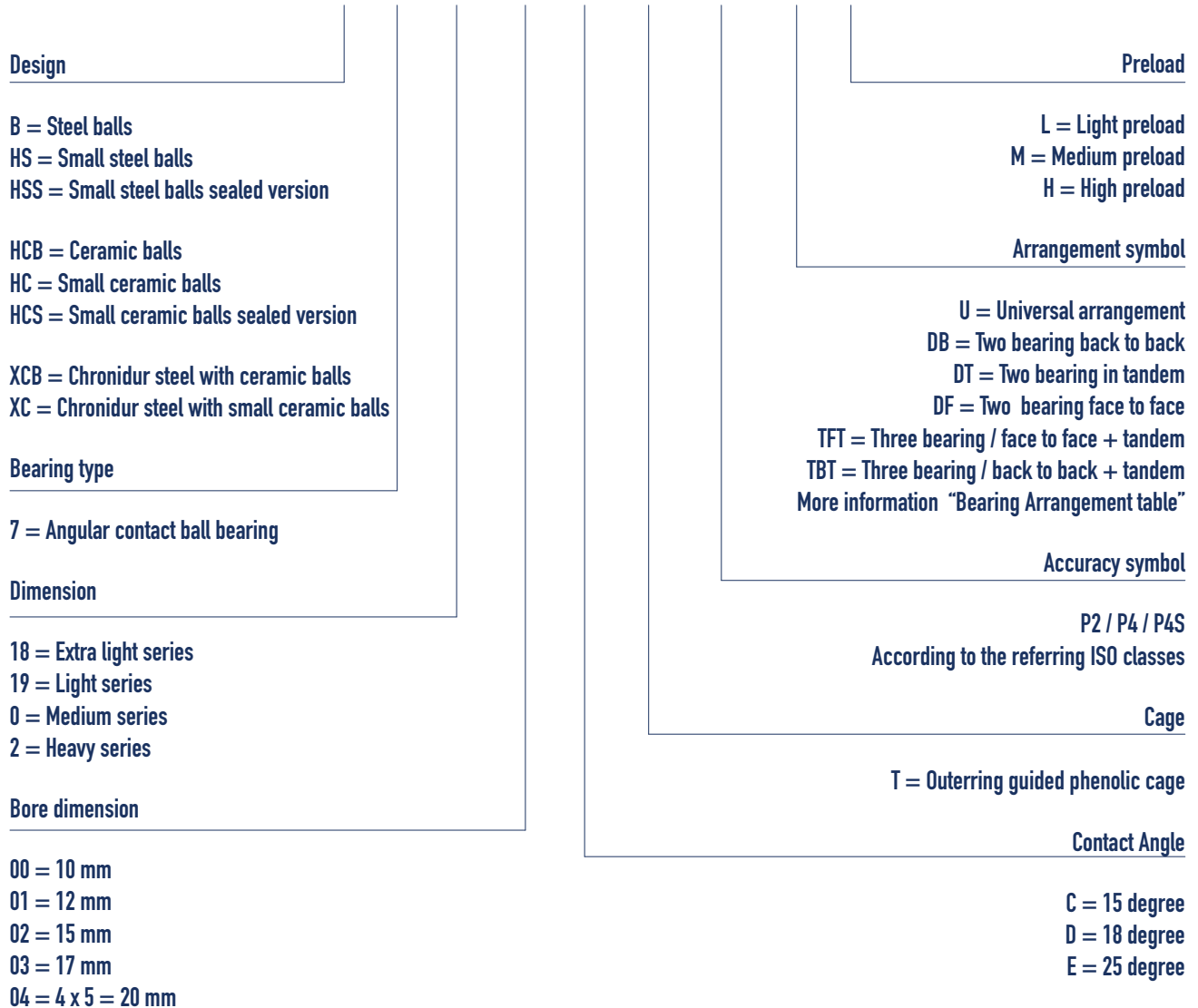
### Engineered polymers

They are used for high temperature resistance having good self-lubricating property and lower friction.



# Numbering system

**B 7 0 01 E T P4S U L**



RSD / 2RSD = Non friction sealings

**B 7 0 01 E 2RSD T P4S U L**

# Bearing arrangements

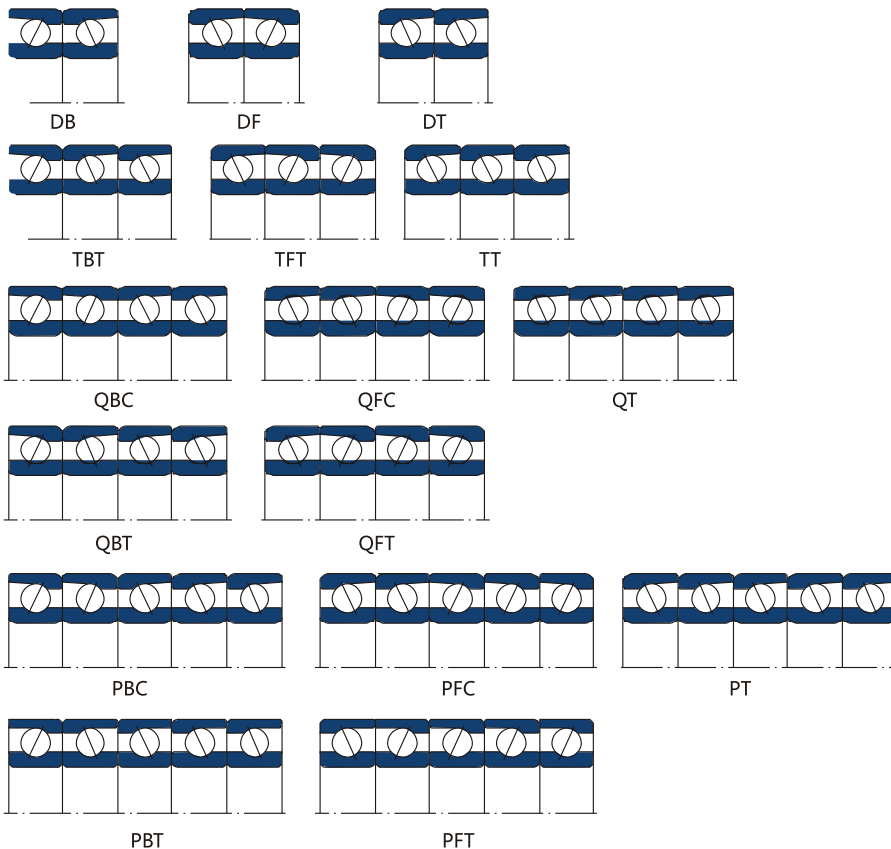
CSC angular contact ball bearings can be supplied as required in complete sets of two, three or four matched bearings in the arrangements.

The bearings of a set are matched in production so that when they are mounted immediately adjacent to each other in the prescribed order, a given preload will be obtained or the load will be evenly distributed. The bore and outside diameters of the bearings of a set differ from each other by one third of the permissible diameter tolerance.

In a back-to-back bearing arrangement, the load lines diverge toward the bearing axis. Axial loads acting in both directions can be accommodated, but only by one bearing or bearing set in one direction each. Bearings mounted back-to-back provide a relatively rigid bearing arrangement that can also accommodate tilting moments.

In a face-to-face bearing arrangement, the load lines converge toward the bearing axis. Axial loads acting in both directions can be accommodated, but only by one bearing or bearing set in one direction each. Face-to-face arrangements can accommodate small amounts of deflection.

In a tandem bearing arrangement, the load lines are parallel so that radial and axial loads are shared equally by the bearings in the set. The bearing set can only accommodate axial loads acting in one direction. For higher loads or requirements for high rigidities, bearings are assembled and installed in sets of 3 or 4. 2 or 3 of them are installed in tandem arrangement.



# Comparison table of CSC bearings with other brands

## steel spindle bearings comparison

Manufacturer/ Brand	CSC	SKF	FAG	NSK	GMN	IBC
<b>Bearing type symbol</b>						
719	B719xx	719xx	B719xx	79xx	S619xx	719xx
70	B70xx	70xx	B70xx	70xx	S6xx	70xx
72	B72xx	72xx	B72xx	72xx	S62xx	72xx
<b>Contact angle</b>						
15°	C	CD	C	C	C	C
25°	E	ACD	E	A5	E	E
<b>Sealing</b>						
	2RSD	S7	2RSD	V1V	2RZ	2RSZ
<b>Cage</b>						
Phenolic resin	T		T	TR	TA	T
Polyamide	TN	TNH	TVP	TYN		PX
<b>Precision class</b>						
	P4	P4	P4	P4	P4	P4
	P4S	P4A	P4S	P3	P4+	P4A (P2H)
	P2	PA9A	P2	P2	P2	P2A
<b>Universal arrangement</b>						
Single bearing	U	G	U	SU	U	U
Duplex set	DU	DG	DU	DU	DU	DU
Triplex set	TU	TG	TU	TU	TU	TU
Quadruplex set	QU	QG	QU	QU	QU	QU
<b>Preload</b>						
Light	L	A/B	L	L	L	L
Medium	M	B/C	M	M	M	M
High	H	D	H	H	S	H

# Comparison table of CSC bearings with other brands

## Hybrid spindle bearings comparison

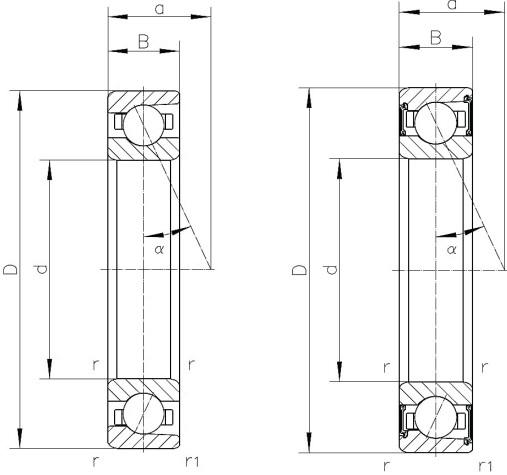
Manufacturer/ Brand	CSC	SKF	FAG	NSK	GMN	IBC
<b>Bearing type symbol</b>						
719	HCB719xx	719xx yy/ HC	HCB719xx	79xx C /SN24	HY S619xx	CB719xx
70	HCB70xx	70xx yy/ HC	HCB70xx	70xx C /SN24	HY S60xx	CB70xx
72	HCB72xx	72xx yy/ HC	HCB72xx	72xx C /SN24	HY S62xx	CB72xx
<b>Contact angle</b>						
15°	C	CD	C	C	C	C
25°	E	ACD	E	A5	E	E
<b>Sealing</b>						
	2RSD	S7	2RSD	V1V	2RZ	2RSZ
<b>Cage</b>						
Phenolic resin	T	-	T	TR	TA	T
Polyamide	TN/TVP	TP	TVP	TYN	-	PX
<b>Precision class</b>						
	P4	P4	P4	P4	P4	P4
	P4S	P4A	P4S	P3	P4+	P4A (P2H)
	P2	PA9A/ P2	P2	P2	P2	P2A
<b>Universal arrangement</b>						
Single bearing	U	G	U	SU	U	U
Duplex set	DU	DG	DU	DU	DU	DU
Triplex set	TU	TG	TU	TU	TU	TU
Quadruplex set	QU	QG	QU	QU	QU	QU
<b>Preload</b>						
Light	L	A/B	L	L	L	L
Medium	M	B/C	M	M	M	M
High	H	D	H	H	S	H

# Comparison table of CSC bearings with other brands

## High speed spindle bearings comparison

Manufacturer/ Brand	CSC	SKF	FAG	NSK	GMN	IBC
<b>Bearing type symbol</b>						
719	HS(S)719xx	(S)719xx	HS(S)719xx	XXBER19.....S	KH619xx	H719xx
70	HS(S)70xx	(S)70xx	HS(S)719xx	XXXBER10.....S	KH70xx	H70xx
72	HS(S)72xx	(S)72xx	HS(S)719xx		KH72xx	H72xx
<b>Contact angle</b>						
15°	C	CE/CB	C	BSR/BGR	C	C
25°	E	ACE/ACB	E	BER	E	E
<b>Cage</b>						
Phenolic resin	T		T	T/TR	TA	T
Polyamide	TN/TVP	TNH	TVP	TY/TYN		PX
<b>Hybrid</b>						
	HC(S)	719xx yy/ <u>HC</u>	<u>HC(S)</u>	XXBER19..... <u>H</u>	<u>HY</u> KH	<u>CB</u> H
<b>Sealing</b>						
	HSS	S7...	HSS	V1V	2RZ	2RSZ
<b>Precision class</b>						
P4	P4	P4A	P4	P4	P4	P4
P4S	P4S	P4A	P4S	P3	P4+	P4A (P2H)
P2	P2	PA9A	P2	P2	P2	P2A
<b>Universal arrangement</b>						
Single bearing	U	G	U	SU	U	U
Duplex set	DU	DG	DU	DU	DU	DU
Triplex set	TU	TG	TU	TU	TU	TU
Quadruplex set	QU	QG	QU	QU	QU	QU
<b>Preload</b>						
Light	L	A/B	L	L	L	L
Medium	M	B/C	M	M	M	M
High	H	D	H	H	S	H

# Super Precision Angular Contact Ball Bearings



Open Version

RSD / HSS / HCS Version (Sealings)

CSC spindle bearings are available as open and sealed version

RSD = Sealed version for B and HCB series

HSS = Sealed version with small steel balls (highspeed)

HCS = Sealed version with ceramic balls (highspeed)

All table show open version

Values are identical for sealed (RSD / HSS / HCS) bearings

Speed limits are identical to open version with grease

Datasheets for RSD items are available on request

## Information on our labels

All spindle bearings boxes have labels with additional information. Same informations can be found on the bearing rings.

B71905-E-T-P4S-UL

ID -3

OD -2 / -75 / -1



123456

ID: actual deviation of nominal bore diameter in  $\mu\text{m}$

OD: actual deviation of nominal outer diameter in  $\mu\text{m}$

2nd Nr.: actual deviation of width in  $\mu\text{m}$

3rd Nr.: actual deviation from nominal projection in  $\mu\text{m}$

## Packaging and marking

CSC Spindlebearings are single packed for UL versions

Sets of bearings arrangements are welded

Marking and tolerances can be found on the bearing and the box-label



# Super Precision Angular Contact Ball Bearings

## B70xx Series

B70xx Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		α	dyn. C <sub>r</sub>		stat. C <sub>0r</sub>	m	F <sub>v</sub>	L	M
					min	min	°	N	N	kg	(N)	(N)	(N)	min <sup>-1</sup>	min <sup>-1</sup>
B7000-C-T-P4S	10	26	8	6,4	0,3	0,1	15	4.200	2.070	0,02	18	63	130	67000	100000
B7000-E-T-P4S	10	26	8	8,2	0,3	0,1	25	4.030	1.990	0,02	20	93	210	60000	95000
B7001-C-T-P4S	12	28	8	6,7	0,3	0,1	15	4.760	2.580	0,023	20	71	148	60000	90000
B7001-E-T-P4S	12	28	8	8,7	0,3	0,1	25	4.550	2.460	0,023	23	114	250	53000	85000
B7002-C-T-P4S	15	32	9	7,6	0,3	0,1	15	6.240	3.390	0,03	26	94	193	53000	80000
B7002-E-T-P4S	15	32	9	10,0	0,3	0,1	25	5.970	3.230	0,03	30	149	328	45000	70000
B7003-C-T-P4S	17	35	10	8,5	0,3	0,1	15	6.970	4.120	0,039	35	115	237	45000	70000
B7003-E-T-P4S	17	35	10	11,1	0,3	0,1	25	6.650	3.940	0,038	47	186	399	43000	63000
B7004-C-T-P4S	20	42	12	10,2	0,6	0,3	15	10.400	6.010	0,067	52	172	354	38000	60000
B7004-E-T-P4S	20	42	12	13,2	0,6	0,3	25	10.000	5.740	0,067	70	280	600	34000	53000
B7005-C-T-P4S	25	47	12	10,8	0,6	0,3	15	14.400	9.070	0,071	72	238	490	34000	50000
B7005-E-T-P4S	25	47	12	14,4	0,6	0,3	25	13.800	8.660	0,07	97	386	828	30000	45000
B7006-C-T-P4S	30	55	13	12,3	1	0,3	15	15.100	10.200	0,108	76	249	513	28000	43000
B7006-E-T-P4S	30	55	13	16,5	1	0,3	25	14.400	9.830	0,108	101	403	864	24000	38000
B7007-C-T-P4S	35	62	14	13,5	1	0,3	15	19.100	13.600	0,153	96	315	649	24000	38000
B7007-E-T-P4S	35	62	14	18,3	1	0,3	25	18.100	13.000	0,152	127	507	1.086	22000	34000
B7008-C-T-P4S	40	68	15	14,7	1	0,3	15	20.500	15.800	0,188	103	338	697	22000	34000
B7008-E-T-P4S	40	68	15	20,1	1	0,3	25	19.500	15.000	0,188	137	546	1.170	20000	30000
B7009-C-T-P4S	45	75	16	16,0	1	0,3	15	24.300	19.200	0,238	134	450	972	19000	30000
B7009-E-T-P4S	45	75	16	22,0	1	0,3	25	23.100	18.200	0,237	162	647	1.386	17000	26000
B7010-C-T-P4S	50	80	16	16,7	1	0,3	15	25.900	21.800	0,257	142	479	1.036	18000	28000
B7010-E-T-P4S	50	80	16	23,2	1	0,3	25	24.600	20.800	0,256	172	689	1.476	16000	24000
B7011-C-T-P4S	55	90	18	18,7	1,1	0,6	15	34.100	28.600	0,377	188	631	1.364	16000	24000
B7011-E-T-P4S	55	90	18	25,9	1,1	0,6	25	32.300	27.100	0,376	226	904	1.938	14000	22000
B7012-C-T-P4S	60	95	18	19,4	1,1	0,6	15	35.000	30.500	0,401	193	648	1.400	15000	22000
B7012-E-T-P4S	60	95	18	27,1	1,1	0,6	25	33.100	29.100	0,4	232	927	1.986	13000	20000
B7013-C-T-P4S	65	100	18	20,1	1,1	0,6	15	40.100	35.300	0,426	221	742	1.604	14000	22000
B7013-E-T-P4S	65	100	18	28,2	1,1	0,6	25	37.900	33.600	0,425	265	1.061	2.274	13000	19000
B7014-C-T-P4S	70	110	20	22,1	1,1	0,6	15	48.200	43.200	0,577	265	892	1.928	13000	20000
B7014-E-T-P4S	70	110	20	31,0	1,1	0,6	25	45.700	41.100	0,575	320	1.280	2.742	11000	18000
B7015-C-T-P4S	75	115	20	22,9	1,1	0,6	15	49.400	46.100	0,608	272	914	1.976	12000	19000
B7015-E-T-P4S	75	115	20	32,4	1,1	0,6	25	46.800	43.800	0,606	328	1.310	2.808	11000	17000
B7016-C-T-P4S	80	125	22	24,7	1,1	0,6	15	58.600	55.100	0,836	322	1.084	2.344	11000	17000
B7016-E-T-P4S	80	125	22	34,9	1,1	0,6	25	55.500	52.500	0,833	389	1.554	3.330	10000	15000

# Super Precision Angular Contact Ball Bearings

## B70xx Series

B70xx Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		Fv			n <sub>G-Grease</sub>	n <sub>G-Oil</sub>
					min	min	°	N	N	m	L	M	H	min <sup>-1</sup>	min <sup>-1</sup>
									kg	(N)	(N)	(N)			
B7017-C-T-P4S	85	130	22	25.4	1.1	0.6	15	60.100	58.500	0.878	331	1.112	2.404	11000	16000
B7017-E-T-P4S	85	130	22	36.1	1.1	0.6	25	56.900	55.500	0.875	398	1.593	3.414	9500	15000
B7018-C-T-P4S	90	140	24	27.4	1.5	0.6	15	66.600	65.800	1.13	366	1.232	2.664	10000	15000
B7018-E-T-P4S	90	140	24	38.8	1.5	0.6	25	62.900	62.300	1.12	503	1.761	3.774	9000	14000
B7019-C-T-P4S	95	145	24	28.1	1.5	0.6	15	73.500	73.100	1.19	404	1.360	2.940	9500	15000
B7019-E-T-P4S	95	145	24	40.0	1.5	0.6	25	69.500	69.300	1.18	556	1.946	4.170	8500	13000
B7020-C-T-P4S	100	150	24	28.7	1.5	0.6	15	80.700	80.800	1.24	444	1.493	3.228	9000	14000
B7020-E-T-P4S	100	150	24	41.1	1.5	0.6	25	76.400	76.700	1.23	611	2.139	4.584	8000	13000
B7021-C-T-P4S	105	160	26	30.8	2	1	15	88.000	89.300	1.61	484	1.628	3.520	8500	13000
B7021-E-T-P4S	105	160	26	43.9	2	1	25	83.200	84.700	1.59	666	2.330	4.992	7500	12000
B7022-C-T-P4S	110	170	28	32.9	2	1	15	100.800	101.300	1.95	615	2.066	4.234	8000	12000
B7022-E-T-P4S	110	170	28	46.9	2	1	25	95.400	96.300	1.95	859	2.862	5.724	7500	12000
B7024-C-T-P4S	120	180	28	34.1	2	1	15	112.100	116.400	2.08	650	2.130	4.484	7500	12000
B7024-E-T-P4S	120	180	28	49.0	2	1	25	106.000	110.400	2.07	954	3.180	6.360	6700	10000
B7026-C-T-P4S	130	200	33	38.6	2	1	15	129.200	137.100	3.16	762	2.455	5.168	6700	10000
B7026-E-T-P4S	130	200	33	55.0	2	1	25	122.100	129.900	3.15	1.099	3.663	7.326	6000	9500
B7028-C-T-P4S	140	210	33	39.9	2	1	15	148.000	158.500	3.35	873	2.812	5.920	6300	10000
B7028-E-T-P4S	140	210	33	57.3	2	1	25	140.000	150.300	3.34	1.260	4.200	8.400	5600	9000
B7030-C-T-P4S	150	225	35	42.6	2.1	1	15	167.500	181.900	4.04	988	3.183	6.700	6000	9000
B7030-E-T-P4S	150	225	35	61.2	2.1	1	25	158.500	172.600	4.03	1.427	4.755	9.510	5300	8000
B7032-C-T-P4S	160	240	38	45.8	2.1	1	15	188.200	207.000	5.04	1.110	3.576	7.528	5600	8500
B7032-E-T-P4S	160	240	38	65.6	2.1	1	25	178.000	196.400	5.01	1.602	5.340	10.680	5000	7500

Also available as RSD Version



# Super Precision Angular Contact Ball Bearings

## B72xx Series

B72xx Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version																
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed		
	d	D	B	a	r	r <sub>i</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		m	Fv			n <sub>G-Grease</sub>	n <sub>G-Oil</sub>
					min	min		N	N		kg	L (N)	M (N)	H (N)	min <sup>-1</sup>	min <sup>-1</sup>
B7200-C-T-P4S	10	30	9	7.2	0.6	0.3	15	6.420	2.940	0.032	35	122	257	56000	85000	
B7200-E-T-P4S	10	30	9	9.2	0.6	0.3	25	6.220	2.850	0.032	40	174	386	50000	75000	
B7201-C-T-P4S	12	32	10	7.9	0.6	0.3	15	7.070	3.460	0.04	39	134	283	50000	75000	
B7201-E-T-P4S	12	32	10	10.1	0.6	0.3	25	6.820	3.330	0.037	46	205	423	45000	67000	
B7202-C-T-P4S	15	35	11	8.9	0.6	0.3	15	8.680	4.560	0.044	48	165	347	45000	67000	
B7202-E-T-P4S	15	35	11	11.4	0.6	0.3	25	8.350	4.390	0.044	57	251	518	40000	60000	
B7203-C-T-P4S	17	40	12	9.9	0.6	0.3	15	10.800	5.870	0.063	49	173	346	38000	56000	
B7203-E-T-P4S	17	40	12	12.8	0.6	0.3	25	10.400	5.640	0.062	71	312	645	36000	53000	
B7204-C-T-P4S	20	47	14	11.6	1	0.3	15	15.500	8.990	0.103	70	248	496	32000	48000	
B7204-E-T-P4S	20	47	14	15.0	1	0.3	25	14.900	8.630	0.103	101	447	924	30000	45000	
B7205-C-T-P4S	25	52	15	12.7	1	0.3	15	16.500	10.200	0.126	74	264	528	28000	43000	
B7205-E-T-P4S	25	52	15	16.6	1	0.3	25	15.800	9.800	0.126	107	474	980	26000	40000	
B7206-C-T-P4S	30	62	16	14.2	1	0.3	15	23.000	14.700	0.202	120	414	874	24000	38000	
B7206-E-T-P4S	30	62	16	18.8	1	0.3	25	22.000	14.000	0.201	150	660	1.364	22000	36000	
B7207-C-T-P4S	35	72	17	15.7	1.1	0.3	15	30.300	20.000	0.301	158	545	1.151	20000	34000	
B7207-E-T-P4S	35	72	17	21.0	1.1	0.3	25	29.100	19.100	0.3	198	815	1.804	19000	32000	
B7208-C-T-P4S	40	80	18	17.0	1.1	0.6	15	36.300	25.200	0.372	189	653	1.379	18000	30000	
B7208-E-T-P4S	40	80	18	23.0	1.1	0.6	25	34.700	24.000	0.371	236	972	2.151	17000	28000	
B7209-C-T-P4S	45	85	19	18.3	1.1	0.6	15	38.000	27.900	0.423	198	684	1.444	17000	28000	
B7209-E-T-P4S	45	85	19	24.9	1.1	0.6	25	36.300	26.600	0.422	247	1.016	2.251	15000	24000	
B7210-C-T-P4S	50	90	20	19.4	1.1	0.6	15	42.700	31.700	0.448	222	769	1.623	16000	26000	
B7210-E-T-P4S	50	90	20	26.3	1.1	0.6	25	40.800	30.300	0.446	277	1.142	2.530	14000	22000	
B7211-C-T-P4S	55	100	21	20.9	1.5	0.6	15	52.900	39.900	0.619	275	952	2.010	14000	22000	
B7211-E-T-P4S	55	100	21	28.6	1.5	0.6	25	50.500	38.200	0.617	343	1.414	3.131	13000	20000	
B7212-C-T-P4S	60	110	22	22.4	1.5	0.6	15	58.200	45.000	0.795	303	1.048	2.212	13000	20000	
B7212-E-T-P4S	60	110	22	30.8	1.5	0.6	25	55.500	42.900	0.793	444	1.554	3.441	12000	19000	
B7213-C-T-P4S	65	120	23	23.9	1.5	0.6	15	69.800	54.700	1	363	1.256	2.652	12000	19000	
B7213-E-T-P4S	65	120	23	33.1	1.5	0.6	25	66.500	52.200	0.998	532	1.862	4.123	11000	18000	
B7214-C-T-P4S	70	125	24	25.3	1.5	0.6	15	72.800	59.700	1.1	422	1.383	2.766	11000	18000	
B7214-E-T-P4S	70	125	24	35.1	1.5	0.6	25	69.300	57.100	1.09	554	1.940	4.297	10000	17000	
B7215-C-T-P4S	75	130	25	26.5	1.5	0.6	15	79.100	65.700	1.2	459	1.503	3.006	11000	18000	
B7215-E-T-P4S	75	130	25	36.9	1.5	0.6	25	75.300	62.800	1.2	602	2.108	4.669	9500	16000	
B7216-C-T-P4S	80	140	26	27.7	2	1	15	89.500	76.800	1.43	519	1.701	3.401	10000	17000	
B7216-E-T-P4S	80	140	26	38.6	2	1	25	85.100	73.200	1.42	767	2.386	5.282	9000	15000	

# Super Precision Angular Contact Ball Bearings

## B72xx Series

B72xx Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		m	Fv			n <sub>G-Grease</sub>
				min	min		°	N	N	kg	L (N)	M (N)	H (N)	min <sup>-1</sup>	min <sup>-1</sup>
B7217-C-T-P4S	85	150	28	29.7	2	1	15	99.700	84.600	1.82	578	1.894	3.789	9000	15000
B7217-E-T-P4S	85	150	28	41.4	2	1	25	94.900	80.800	1.81	854	2.657	5.884	8000	13000
B7218-C-T-P4S	90	160	30	31.7	2	1	15	122.600	104.800	2.2	711	2.329	4.659	8500	14000
B7218-E-T-P4S	90	160	30	44.1	2	1	25	116.900	99.900	2.19	1.052	3.273	7.248	7500	12000
B7219-C-T-P4S	95	170	32	33.8	2.1	1.1	15	138.800	119.800	2.73	805	2.637	5.274	8000	13000
B7219-E-T-P4S	95	170	32	46.9	2.1	1.1	25	132.400	114.400	2.72	1.192	3.707	8.209	7000	11000
B7220-C-T-P4S	100	180	34	35.8	2.1	1.1	15	156.000	135.900	3.35	905	2.964	6.240	7500	12000
B7220-E-T-P4S	100	180	34	49.6	2.1	1.1	25	148.800	129.900	3.34	1.339	4.166	9.226	6700	10000
B7221-C-T-P4S	105	190	36	37.8	2.1	1.1	15	162.500	147.300	3.89	943	3.088	6.500	7000	11000
B7221-E-T-P4S	105	190	36	52.4	2.1	1.1	25	154.800	140.400	3.88	1.393	4.334	9.598	6300	9500
B7222-C-T-P4S	110	200	38	39.9	2.1	1.1	15	168.600	158.700	4.6	978	3.203	6.744	6700	10000
B7222-E-T-P4S	110	200	38	55.4	2.1	1.1	25	160.300	151.500	4.59	1.443	4.488	9.939	6000	9000
B7224-C-T-P4S	120	215	40	42.8	2.1	1.1	15	173.700	171.700	5.3	1.007	3.300	6.948	6000	9000
B7224-E-T-P4S	120	215	40	59.6	2.1	1.1	25	164.700	163.000	5.28	1.482	4.612	10.211	5300	8000
B7226-C-T-P4S	130	230	40	44.1	3	1.1	15	198.500	202.400	6.11	1.151	3.772	7.940	5600	8500
B7226-E-T-P4S	130	230	40	62.0	3	1.1	25	188.500	192.700	6.09	1.697	5.278	11.687	5000	7500

Also available as RSD Version

# Super Precision Angular Contact Ball Bearings

## B719xx Series

B719xx Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		α	dyn. C <sub>r</sub>		stat. C <sub>0r</sub>	m	Fv	L	M
					min	min	°	N	N	kg	(N)	(N)	(N)	min <sup>-1</sup>	min <sup>-1</sup>
B71900-C-T-P4S	10	22	6	5,1	0,3	0,1	15	3.010	1.510	0,01	14	48	105	75000	120000
B71900-E-T-P4S	10	22	6	6,7	0,3	0,1	25	2.870	1.440	0,01	17	77	172	70000	110000
B71901-C-T-P4S	12	24	6	5,4	0,3	0,1	15	3.350	1.850	0,011	15	54	117	67000	100000
B71901-E-T-P4S	12	24	6	7,2	0,3	0,1	25	3.190	1.770	0,011	16	80	175	60000	95000
B71902-C-T-P4S	15	28	7	6,4	0,3	0,1	15	5.020	2.850	0,016	23	80	176	56000	85000
B71902-E-T-P4S	15	28	7	8,5	0,3	0,1	25	4.790	2.730	0,016	24	120	263	50000	75000
B71903-C-T-P4S	17	30	7	6,6	0,3	0,1	15	5.250	3.160	0,018	24	84	184	50000	80000
B71903-E-T-P4S	17	30	7	9,0	0,3	0,1	25	5.000	3.010	0,018	25	125	275	45000	70000
B71904-C-T-P4S	20	37	9	8,3	0,3	0,15	15	7.290	4.560	0,037	33	117	255	43000	63000
B71904-E-T-P4S	20	37	9	11,1	0,3	0,15	25	6.940	4.360	0,037	35	174	382	38000	60000
B71905-C-T-P4S	25	42	9	9,0	0,3	0,15	15	8.160	5.750	0,043	37	131	286	36000	56000
B71905-E-T-P4S	25	42	9	12,3	0,3	0,15	25	7.740	5.460	0,043	39	194	426	32000	50000
B71906-C-T-P4S	30	47	9	9,7	0,3	0,15	15	8.610	6.620	0,05	39	138	301	30000	48000
B71906-E-T-P4S	30	47	9	13,5	0,3	0,15	25	8.140	6.270	0,05	41	204	448	28000	43000
B71907-C-T-P4S	35	55	10	11,0	0,6	0,15	15	11.700	9.490	0,077	53	187	410	26000	40000
B71907-E-T-P4S	35	55	10	15,5	0,6	0,15	25	11.100	8.980	0,077	56	278	611	24000	36000
B71908-C-T-P4S	40	62	12	12,8	0,6	0,15	15	17.500	13.700	0,1	79	280	613	24000	36000
B71908-E-T-P4S	40	62	12	17,9	0,6	0,15	25	16.600	13.000	0,099	116	448	979	20000	32000
B71909-C-T-P4S	45	68	12	13,6	0,6	0,15	15	18.500	15.600	0,117	83	296	648	20000	32000
B71909-E-T-P4S	45	68	12	19,2	0,6	0,15	25	17.500	14.800	0,116	123	473	1033	19000	28000
B71910-C-T-P4S	50	72	12	14,2	0,6	0,15	15	18.900	16.600	0,117	85	302	662	19000	30000
B71910-E-T-P4S	50	72	12	20,2	0,6	0,15	25	17.800	15.700	0,083	125	481	1050	17000	26000
B71911-C-T-P4S	55	80	13	15,5	1	0,3	15	22.800	20.400	0,174	103	365	798	17000	26000
B71911-E-T-P4S	55	80	13	22,2	1	0,3	25	21.600	19.400	0,173	151	583	1274	15000	24000
B71912-C-T-P4S	60	85	13	16,2	1	0,3	15	23.900	22.700	0,188	108	382	837	16000	24000
B71912-E-T-P4S	60	85	13	23,4	1	0,3	25	22.600	21.500	0,187	158	610	1333	14000	22000
B71913-C-T-P4S	65	90	13	16,9	1	0,3	15	24.300	23.900	0,2	109	389	851	15000	22000
B71913-E-T-P4S	65	90	13	24,6	1	0,3	25	22.900	22.500	0,199	160	618	1351	13000	20000
B71914-C-T-P4S	70	100	16	19,4	1	0,3	15	32.400	31.100	0,34	146	518	1134	14000	20000
B71914-E-T-P4S	70	100	16	27,8	1	0,3	25	30.600	29.500	0,339	214	826	1805	12000	19000
B71915-C-T-P4S	75	105	16	20,1	1	0,3	15	34.000	34.300	0,359	153	544	1190	13000	20000
B71915-E-T-P4S	75	105	16	29,0	1	0,3	25	32.100	32.400	0,358	225	867	1894	11000	18000

# Super Precision Angular Contact Ball Bearings

## B719xx Series

B719xx Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>	α	dyn. C <sub>r</sub>	stat. C <sub>0r</sub>	m	F <sub>v</sub>			n <sub>G-Grease</sub>	n <sub>G-Oil</sub>
					min	min	°	N	N	kg	L (N)	M (N)	H (N)	min <sup>-1</sup>	min <sup>-1</sup>
B71916-C-T-P4S	80	110	16	20.7	1	0.3	15	34.500	35.900	0.376	155	552	1208	12000	19000
B71916-E-T-P4S	80	110	16	30.1	1	0.3	25	32.600	33.900	0.375	228	880	1923	11000	17000
B71917-C-T-P4S	85	120	18	22.7	1.1	0.6	15	39.900	42.200	0.533	219	758	1556	11000	17000
B71917-E-T-P4S	85	120	18	32.9	1.1	0.6	25	37.700	39.700	0.532	320	1131	2451	10000	15000
B71918-C-T-P4S	90	125	18	23.4	1.1	0.6	15	40.600	44.000	0.559	223	771	1583	11000	16000
B71918-E-T-P4S	90	125	18	34.1	1.1	0.6	25	38.200	41.200	0.557	325	1146	2483	9500	15000
B71919-C-T-P4S	95	130	18	24.1	1.1	0.6	15	41.200	45.700	0.583	227	783	1607	10000	16000
B71919-E-T-P4S	95	130	18	35.2	1.1	0.6	25	38.800	42.600	0.581	330	1164	2522	9000	14000
B71920-C-T-P4S	100	140	20	26.1	1.1	0.6	15	51.500	56.200	0.772	283	979	2009	9500	14000
B71920-E-T-P4S	100	140	20	38.0	1.1	0.6	25	48.600	52.900	0.769	413	1458	3159	8500	13000
B71921-C-T-P4S	105	145	20	26.7	1.1	0.6	15	52.400	58.600	0.803	288	996	2044	9000	14000
B71921-E-T-P4S	105	145	20	39.1	1.1	0.6	25	49.400	54.800	0.8	420	1482	3211	8000	13000
B71922-C-T-P4S	110	150	20	27.4	1.1	0.6	15	53.300	60.800	0.834	293	1013	2079	8500	13000
B71922-E-T-P4S	110	150	20	40.3	1.1	0.6	25	50.200	56.700	0.832	427	1506	3263	8000	12000
B71924-C-T-P4S	120	165	22	30.1	1.1	0.6	15	73.600	84.200	1.16	405	1398	2870	8000	12000
B71924-E-T-P4S	120	165	22	44.2	1.1	0.6	25	69.400	79.300	1.16	590	2082	4511	7000	11000
B71926-C-T-P4S	130	180	24	32.8	1.5	0.6	15	75.900	90.900	1.52	417	1442	2960	7000	11000
B71926-E-T-P4S	130	180	24	48.1	1.5	0.6	25	71.500	84.800	1.51	608	2145	4648	6700	10000
B71928-C-T-P4S	140	190	24	34.1	1.5	0.6	15	90.400	108.200	1.62	497	1718	3526	6700	10000
B71928-E-T-P4S	140	190	24	50.5	1.5	0.6	25	85.300	101.400	1.61	725	2559	5545	6000	9500
B71930-C-T-P4S	150	210	28	38.1	2	1	15	118.400	137.400	2.5	651	2250	4618	6300	9500
B71930-E-T-P4S	150	210	28	56.0	2	1	25	111.700	129.700	2.5	949	3351	7261	5600	8500
B71932-C-T-P4S	160	220	28	39.5	2	1	15	123.500	149.700	2.63	679	2347	4817	6000	9000
B71932-E-T-P4S	160	220	28	58.3	2	1	25	116.600	141.000	2.62	991	3498	7579	5300	8000

Also available as RSD Version

# Super Precision Angular Contact Ball Bearings

## B718xx Series

B718xx Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		m	L	M	H	n <sub>G-Grease</sub>
					min	min	°	N	N	kg	(N)	(N)	(N)	min <sup>-1</sup>	min <sup>-1</sup>
B71800-C-T-P4	10	19	5	4,4	0,3	0,1	15	1.990	1.060	0,005	7	24	56	75000	120000
B71800-E-T-P4	10	19	5	5,9	0,3	0,1	25	1.890	1.010	0,005	9	32	81	70000	110000
B71801-C-T-P4	12	21	5	4,7	0,3	0,1	15	2.060	1.180	0,01	8	25	58	67000	10000
B71801-E-T-P4	12	21	5	6,3	0,3	0,1	25	1.950	1.120	0,01	9	33	84	60000	90000
B71802-C-T-P4	15	24	5	5,1	0,3	0,1	15	2.290	1.480	0,01	8	27	64	56000	85000
B71802-E-T-P4	15	24	5	7,0	0,3	0,1	25	2.160	1.400	0,01	10	37	93	50000	75000
B71803-C-T-P4	17	26	5	5,4	0,3	0,1	15	2.330	1.590	0,01	9	28	65	50000	75000
B71803-E-T-P4	17	26	5	7,5	0,3	0,1	25	2.200	1.510	0,01	10	37	95	48000	70000
B71804-C-T-P4	20	32	7	7,0	0,3	0,1	15	3.840	2.630	0,02	14	46	108	43000	63000
B71804-E-T-P4	20	32	7	9,6	0,3	0,1	25	3.630	2.490	0,02	16	62	156	38000	56000
B71805-C-T-P4	25	37	7	7,7	0,3	0,1	15	4.140	3.190	0,02	15	50	116	36000	53000
B71805-E-T-P4	25	37	7	10,7	0,3	0,1	25	3.900	3.000	0,02	18	66	168	32000	48000
B71806-C-T-P4	30	42	7	8,3	0,3	0,1	15	4.390	3.670	0,03	16	53	123	30000	45000
B71806-E-T-P4	30	42	7	11,9	0,3	0,1	25	4.140	3.420	0,03	19	70	178	28000	43000
B71807-C-T-P4	35	47	7	9,0	0,3	0,1	15	4.620	4.100	0,03	17	55	129	26000	40000
B71807-E-T-P4	35	47	7	13,1	0,3	0,1	25	4.350	3.820	0,03	20	74	187	24000	38000
B71808-C-T-P4	40	52	7	9,7	0,3	0,1	15	4.830	4.520	0,03	18	58	135	24000	38000
B71808-E-T-P4	40	52	7	14,2	0,3	0,1	25	4.540	4.220	0,03	20	77	195	22000	36000
B71809-C-T-P4	45	58	7	10,4	0,3	0,1	15	4.900	4.790	0,04	18	59	137	22000	36000
B71809-E-T-P4	45	58	7	15,5	0,3	0,1	25	4.600	4.470	0,04	21	78	198	19000	32000
B71810-C-T-P4	50	65	7	11,2	0,3	0,1	15	7.380	7.310	0,05	27	89	207	19000	32000
B71810-E-T-P4	50	65	7	16,9	0,3	0,1	25	6.950	6.830	0,05	31	118	299	17000	28000

Also available as RSD Version

# Super Precision Angular Contact Ball Bearings

## HCB70xx Series

HCB70xx Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version																
designation	dimensions						contact angle $\alpha$ °	load ratings		weight m kg	preload			limiting speed		
	d	D	B	a	r	$r_1$		dyn. $C_r$	stat. $C_{0r}$		Fv	L (N)	M (N)	H (N)	$n_{G-Grease}$ min <sup>-1</sup>	$n_{G-Oil}$ min <sup>-1</sup>
					min	min		N	N							
HCB7000-C-T-P4S	10	26	8	6.4	0.3	0.1	15	4.200	2.070	0.018	6	29	63	95000	140000	
HCB7000-E-T-P4S	10	26	8	8.2	0.3	0.1	25	4.030	1.990	0.018	10	48	113	85000	130000	
HCB7001-C-T-P4S	12	28	8	6.7	0.3	0.1	15	4.760	2.580	0.02	7	33	71	85000	130000	
HCB7001-E-T-P4S	12	28	8	8.7	0.3	0.1	25	4.550	2.460	0.02	11	55	127	75000	120000	
HCB7002-C-T-P4S	15	32	9	7.6	0.3	0.1	15	6.240	3.390	0.027	9	44	94	70000	110000	
HCB7002-E-T-P4S	15	32	9	10.0	0.3	0.1	25	5.970	3.230	0.027	15	72	167	63000	100000	
HCB7003-C-T-P4S	17	35	10	8.5	0.3	0.1	15	6.970	4.120	0.033	14	56	129	63000	100000	
HCB7003-E-T-P4S	17	35	10	11.1	0.3	0.1	25	6.650	3.940	0.032	19	93	213	56000	90000	
HCB7004-C-T-P4S	20	42	12	10.2	0.6	0.3	15	10.400	6.010	0.061	21	83	192	53000	80000	
HCB7004-E-T-P4S	20	42	12	13.2	0.6	0.3	25	10.000	5.740	0.06	28	140	320	48000	75000	
HCB7005-C-T-P4S	25	47	12	10.8	0.6	0.3	15	14.400	9.070	0.065	29	115	266	45000	70000	
HCB7005-E-T-P4S	25	47	12	14.4	0.6	0.3	25	13.800	8.660	0.065	39	193	442	40000	63000	
HCB7006-C-T-P4S	30	55	13	12.3	1	0.3	15	15.100	10.200	0.103	30	121	279	38000	60000	
HCB7006-E-T-P4S	30	55	13	16.5	1	0.3	25	14.400	9.830	0.102	40	202	461	34000	53000	
HCB7007-C-T-P4S	35	62	14	13.5	1	0.3	15	19.100	13.600	0.135	38	153	353	34000	53000	
HCB7007-E-T-P4S	35	62	14	18.3	1	0.3	25	18.100	13.000	0.135	51	253	579	30000	45000	
HCB7008-C-T-P4S	40	68	15	14.7	1	0.3	15	20.500	15.800	0.168	41	164	379	30000	45000	
HCB7008-E-T-P4S	40	68	15	20.1	1	0.3	25	19.500	15.000	0.168	55	273	624	28000	43000	
HCB7009-C-T-P4S	45	75	16	16.0	1	0.3	15	24.300	19.200	0.197	63	243	535	26000	40000	
HCB7009-E-T-P4S	45	75	16	22.0	1	0.3	25	23.100	18.200	0.197	81	370	832	24000	38000	
HCB7010-C-T-P4S	50	80	16	16.7	1	0.3	15	25.900	21.800	0.214	67	259	570	24000	38000	
HCB7010-E-T-P4S	50	80	16	23.2	1	0.3	25	24.600	20.800	0.213	86	394	886	22000	34000	
HCB7011-C-T-P4S	55	90	18	18.7	1.1	0.6	15	34.100	28.600	0.312	95	341	750	22000	34000	
HCB7011-E-T-P4S	55	90	18	25.9	1.1	0.6	25	32.300	27.100	0.311	113	517	1.163	20000	30000	
HCB7012-C-T-P4S	60	95	18	19.4	1.1	0.6	15	35.000	30.500	0.333	98	350	770	20000	32000	
HCB7012-E-T-P4S	60	95	18	27.1	1.1	0.6	25	33.100	29.100	0.332	116	530	1.192	19000	28000	
HCB7013-C-T-P4S	65	100	18	20.1	1.1	0.6	15	40.100	35.300	0.354	112	401	882	19000	30000	
HCB7013-E-T-P4S	65	100	18	28.2	1.1	0.6	25	37.900	33.600	0.353	133	606	1.364	17000	26000	
HCB7014-C-T-P4S	70	110	20	22.1	1.1	0.6	15	48.200	43.200	0.494	135	482	1.060	18000	28000	
HCB7014-E-T-P4S	70	110	20	31.0	1.1	0.6	25	45.700	41.100	0.492	160	731	1.645	16000	24000	
HCB7015-C-T-P4S	75	115	20	22.9	1.1	0.6	15	49.400	46.100	0.521	138	494	1.087	17000	26000	
HCB7015-E-T-P4S	75	115	20	32.4	1.1	0.6	25	46.800	43.800	0.519	164	749	1.685	15000	24000	

# Super Precision Angular Contact Ball Bearings

## HCB70xx Series

HCB70xx Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		m	Fv	L	M	H
					min	min	°	N	N	kg	(N)	(N)	(N)	min <sup>-1</sup>	min <sup>-1</sup>
HCB7016-C-T-P4S	80	125	22	24,7	1,1	0,6	15	58.600	55.100	0,699	164	586	1.289	15000	24000
HCB7016-E-T-P4S	80	125	22	34,9	1,1	0,6	25	55.500	52.500	0,696	194	888	1.998	14000	22000
HCB7017-C-T-P4S	85	130	22	25,4	1,1	0,6	15	60.100	58.500	0,734	168	601	1.322	15000	22000
HCB7017-E-T-P4S	85	130	22	36,1	1,1	0,6	25	56.900	55.500	0,731	199	910	2.048	13000	20000
HCB7018-C-T-P4S	90	140	24	27,4	1,5	0,6	15	66.600	65.800	0,956	200	699	1.465	14000	22000
HCB7018-E-T-P4S	90	140	24	38,8	1,5	0,6	25	62.900	62.300	0,952	252	1.101	2.264	12000	19000
HCB7019-C-T-P4S	95	145	24	28,1	1,5	0,6	15	73.500	73.100	0,999	221	772	1.617	13000	20000
HCB7019-E-T-P4S	95	145	24	40,0	1,5	0,6	25	69.500	69.300	0,995	278	1.216	2.502	12000	18000
HCB7020-C-T-P4S	100	150	24	28,7	1,5	0,6	15	80.700	80.800	1,04	242	847	1.775	13000	19000
HCB7020-E-T-P4S	100	150	24	41,1	1,5	0,6	25	76.400	76.700	1,04	306	1.337	2.750	11000	17000
HCB7021-C-T-P4S	105	160	26	30,8	2	1	15	88.000	89.300	1,4	264	924	1.936	12000	18000
HCB7021-E-T-P4S	105	160	26	43,9	2	1	25	83.200	84.700	1,39	333	1.456	2.995	11000	16000
HCB7022-C-T-P4S	110	170	28	32,9	2	1	15	100.800	101.300	1,62	302	1.058	2.218	12000	18000
HCB7022-E-T-P4S	110	170	28	46,9	2	1	25	95.400	96.300	1,62	382	1.670	3.434	11000	16000
HCB7024-C-T-P4S	120	180	28	34,1	2	1	15	112.100	116.400	1,74	336	1.177	2.466	10000	16000
HCB7024-E-T-P4S	120	180	28	49,0	2	1	25	106.000	110.400	1,73	424	1.855	3.816	9500	14000
HCB7026-C-T-P4S	130	200	33	38,6	2	1	15	129.200	137.100	2,63	388	1.357	2.842	9500	14000
HCB7026-E-T-P4S	130	200	33	55,0	2	1	25	122.100	129.900	2,61	488	2.137	4.396	8500	13000
HCB7028-C-T-P4S	140	210	33	39,9	2	1	15	148.000	158.500	2,79	444	1.554	3.256	9000	14000
HCB7028-E-T-P4S	140	210	33	57,3	2	1	25	140.000	150.300	2,78	560	2.450	5.040	8000	12000
HCB7030-C-T-P4S	150	225	35	42,6	2,1	1	15	167.500	181.900	3,25	503	1.759	3.685	8000	13000
HCB7030-E-T-P4S	150	225	35	61,2	2,1	1	25	158.500	172.600	3,24	634	2.774	5.706	7500	11000
HCB7032-C-T-P4S	160	240	38	45,8	2,1	1	15	188.200	207.000	4,2	565	1.976	4.140	7500	12000
HCB7032-E-T-P4S	160	240	38	65,6	2,1	1	25	178.000	196.400	4,18	712	3.115	6.408	7000	11000

Also available as RSD Version

# Super Precision Angular Contact Ball Bearings

## HCB719xx Series

HCB719xx Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle $\alpha$ °	load ratings		weight m kg	preload			limiting speed	
	d	D	B	a	r	$r_1$		dyn. $C_r$	stat. $C_{0r}$		Fv			$n_{G-Grease}$	$n_{G-Oil}$
					min	min		N	N		L (N)	M (N)	H (N)	min <sup>-1</sup>	min <sup>-1</sup>
HCB71900-C-T-P4S	10	22	6	5.1	0.3	0.1	15	3.010	1.510	0.009	6	24	57	110000	160000
HCB71900-E-T-P4S	10	22	6	6.7	0.3	0.1	25	2.870	1.440	0.009	6	34	80	95000	150000
HCB71901-C-T-P4S	12	24	6	5.4	0.3	0.1	15	3.350	1.850	0.01	6	27	64	95000	140000
HCB71901-E-T-P4S	12	24	6	7.2	0.3	0.1	25	3.190	1.770	0.01	6	38	89	85000	130000
HCB71902-C-T-P4S	15	28	7	6.4	0.3	0.1	15	5.020	2.850	0.014	8	40	95	75000	120000
HCB71902-E-T-P4S	15	28	7	8.5	0.3	0.1	25	4.790	2.730	0.014	12	62	144	70000	110000
HCB71903-C-T-P4S	17	30	7	6.6	0.3	0.1	15	5.250	3.160	0.015	8	42	100	70000	110000
HCB71903-E-T-P4S	17	30	7	9.0	0.3	0.1	25	5.000	3.010	0.015	13	65	150	63000	100000
HCB71904-C-T-P4S	20	37	9	8.3	0.3	0.15	15	7.290	4.560	0.033	12	58	139	60000	90000
HCB71904-E-T-P4S	20	37	9	11.1	0.3	0.15	25	6.940	4.360	0.033	17	90	208	53000	80000
HCB71905-C-T-P4S	25	42	9	9.0	0.3	0.15	15	8.160	5.750	0.039	13	65	155	50000	75000
HCB71905-E-T-P4S	25	42	9	12.3	0.3	0.15	25	7.740	5.460	0.039	19	101	232	45000	67000
HCB71906-C-T-P4S	30	47	9	9.7	0.3	0.15	15	8.610	6.620	0.045	14	69	164	43000	67000
HCB71906-E-T-P4S	30	47	9	13.5	0.3	0.15	25	8.140	6.270	0.045	20	106	244	38000	60000
HCB71907-C-T-P4S	35	55	10	11.0	0.6	0.15	15	11.700	9.490	0.067	19	94	222	36000	56000
HCB71907-E-T-P4S	35	55	10	15.5	0.6	0.15	25	11.100	8.980	0.067	28	144	333	32000	50000
HCB71908-C-T-P4S	40	62	12	12.8	0.6	0.15	15	17.500	13.700	0.092	39	158	350	32000	50000
HCB71908-E-T-P4S	40	62	12	17.9	0.6	0.15	25	16.600	13.000	0.092	42	216	498	28000	45000
HCB71909-C-T-P4S	45	68	12	13.6	0.6	0.15	15	18.500	10.900	0.109	41	167	370	28000	45000
HCB71909-E-T-P4S	45	68	12	19.2	0.6	0.15	25	17.500	10.300	0.108	44	228	525	26000	40000
HCB71910-C-T-P4S	50	72	12	14.2	0.6	0.15	15	18.900	16.600	0.108	42	170	378	26000	40000
HCB71910-E-T-P4S	50	72	12	20.2	0.6	0.15	25	17.800	15.700	0.108	45	231	534	24000	36000
HCB71911-C-T-P4S	55	80	13	15.5	1	0.3	15	22.800	20.400	0.15	50	205	456	24000	36000
HCB71911-E-T-P4S	55	80	13	22.2	1	0.3	25	21.600	19.400	0.149	54	281	648	22000	32000
HCB71912-C-T-P4S	60	85	13	16.2	1	0.3	15	23.900	22.700	0.161	53	215	478	22000	34000
HCB71912-E-T-P4S	60	85	13	23.4	1	0.3	25	22.600	21.500	0.16	57	294	678	20000	30000
HCB71913-C-T-P4S	65	90	13	16.9	1	0.3	15	24.300	23.900	0.172	53	219	486	20000	32000
HCB71913-E-T-P4S	65	90	13	24.6	1	0.3	25	22.900	22.500	0.171	57	298	687	19000	28000
HCB71914-C-T-P4S	70	100	16	19.4	1	0.3	15	32.400	31.100	0.281	71	292	648	19000	28000
HCB71914-E-T-P4S	70	100	16	27.8	1	0.3	25	30.600	29.500	0.28	77	398	918	17000	26000
HCB71915-C-T-P4S	75	105	16	20.1	1	0.3	15	34.000	34.300	0.297	75	306	680	18000	28000
HCB71915-E-T-P4S	75	105	16	29.0	1	0.3	25	32.100	32.400	0.296	80	417	963	16000	24000



# Super Precision Angular Contact Ball Bearings

## HCB719xx Series

HCB719xx Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as RSD Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		α	dyn. C <sub>r</sub>		stat. C <sub>0r</sub>	m	Fv	L	M
				min	min		°	N	N	kg	(N)	(N)	(N)	min <sup>-1</sup>	min <sup>-1</sup>
HCB71916-C-T-P4S	80	110	16	20.7	1	0.3	15	34.500	35.900	0.312	76	311	690	17000	26000
HCB71916-E-T-P4S	80	110	16	30.1	1	0.3	25	32.600	33.900	0.311	82	424	978	15000	24000
HCB71917-C-T-P4S	85	120	18	22.7	1.1	0.6	15	39.900	42.200	0.441	108	419	898	15000	24000
HCB71917-E-T-P4S	85	120	18	32.9	1.1	0.6	25	37.700	39.700	0.44	132	566	1.320	14000	22000
HCB71918-C-T-P4S	90	125	18	23.4	1.1	0.6	15	40.600	44.000	0.464	110	426	914	15000	22000
HCB71918-E-T-P4S	90	125	18	34.1	1.1	0.6	25	38.200	41.200	0.462	134	573	1.337	13000	20000
HCB71919-C-T-P4S	95	130	18	24.1	1.1	0.6	15	41.200	45.700	0.484	111	433	927	14000	22000
HCB71919-E-T-P4S	95	130	18	35.2	1.1	0.6	25	38.800	42.600	0.482	136	582	1.358	13000	19000
HCB71920-C-T-P4S	100	140	20	26.1	1.1	0.6	15	51.500	56.200	0.658	139	541	1.159	13000	20000
HCB71920-E-T-P4S	100	140	20	38.0	1.1	0.6	25	34.100	37.100	0.655	170	729	1.701	12000	18000
HCB71921-C-T-P4S	105	145	20	26.7	1.1	0.6	15	36.700	41.100	0.688	141	550	1.179	13000	19000
HCB71921-E-T-P4S	105	145	20	39.1	1.1	0.6	25	34.600	38.400	0.685	173	741	1.729	11000	17000
HCB71922-C-T-P4S	110	150	20	27.4	1.1	0.6	15	37.300	42.600	0.715	144	560	1.199	12000	19000
HCB71922-E-T-P4S	110	150	20	40.3	1.1	0.6	25	35.200	39.700	0.713	176	753	1.757	11000	17000
HCB71924-C-T-P4S	120	165	22	30.1	1.1	0.6	15	47.100	54.800	0.972	199	773	1.656	11000	17000
HCB71924-E-T-P4S	120	165	22	44.2	1.1	0.6	25	44.400	51.200	0.969	243	1.041	2.429	10000	15000
HCB71926-C-T-P4S	130	180	24	32.8	1.5	0.6	15	53.200	63.700	1.34	205	797	1.708	10000	15000
HCB71926-E-T-P4S	130	180	24	48.1	1.5	0.6	25	50.100	59.400	1.33	250	1.073	2.503	9000	14000
HCB71928-C-T-P4S	140	190	24	34.1	1.5	0.6	15	90.400	108.200	1.42	244	949	2.034	9500	14000
HCB71928-E-T-P4S	140	190	24	50.5	1.5	0.6	25	85.300	101.400	1.42	299	1.280	2.986	8500	13000
HCB71930-C-T-P4S	150	210	28	38.1	2.0	1.0	15	118.400	137.400	2.09	320	1.243	2.664	8500	13000
HCB71930-E-T-P4S	150	210	28	56.0	2.0	1.0	25	111.700	129.700	2.08	391	1.676	3.910	7500	12000
HCB71932-C-T-P4S	160	220	28	39.5	2.0	1.0	15	123.500	149.700	2.21	333	1.297	2.779	8000	12000
HCB71932-E-T-P4S	160	220	28	58.3	2.0	1.0	25	116.600	141.000	2.2	466	1.749	4.081	7500	11000

Also available as RSD Version

# Super Precision Angular Contact Ball Bearings

## HS70xx Series

HS70xx Highspeed Series	Steel Balls	CSC Super Precision bearings	Dimensions in mm	Also available as HSS (Sealed) Version												
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed		
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		m	Fv			n <sub>G-Grease</sub>	n <sub>G-Oil</sub>
					min	min		°	N		N	kg	L (N)	M (N)	H (N)	min <sup>-1</sup>
HS7000-C-T-P4S	10	26	8	6.4	0.3	0.3	15	3.180	1.720	0.02	9	28	55	84000	126000	
HS7000-E-T-P4S	10	26	8	8.2	0.3	0.3	25	3.030	1.630	0.02	15	45	90	75000	112000	
HS7001-C-T-P4S	12	28	8	6.7	0.3	0.3	15	3.330	1.910	0.021	9	27	54	75000	112500	
HS7001-E-T-P4S	12	28	8	8.7	0.3	0.3	25	3.170	1.820	0.021	15	44	88	68000	102000	
HS7002-C-T-P4S	15	32	9	7.6	0.3	0.3	15	3.910	2.580	0.028	13	38	75	64000	96000	
HS7002-E-T-P4S	15	32	9	10.0	0.3	0.3	25	3.700	2.460	0.028	20	61	122	58000	87000	
HS7003-C-T-P4S	17	35	10	8.5	0.3	0.3	15	6.970	4.130	0.04	13	38	76	58000	87000	
HS7003-E-T-P4S	17	35	10	11.1	0.3	0.3	25	6.650	3.950	0.04	21	63	126	52000	78000	
HS7004-C-T-P4S	20	42	12	10.2	0.6	0.6	15	9.660	6.110	0.066	21	62	125	49000	73500	
HS7004-E-T-P4S	20	42	12	13.2	0.6	0.6	25	9.210	5.820	0.066	34	101	202	44000	66000	
HS7005-C-T-P4S	25	47	12	10.8	0.6	0.6	15	10.460	7.260	0.074	21	63	127	42000	63000	
HS7005-E-T-P4S	25	47	12	14.4	0.6	0.6	25	9.920	6.890	0.074	35	104	207	38000	57000	
HS7006-C-T-P4S	30	55	13	12.2	1	1	15	12.180	9.020	0.117	29	88	177	36000	54000	
HS7006-E-T-P4S	30	55	13	16.4	1	1	25	11.540	8.570	0.117	48	143	286	32000	48000	
HS7007-C-T-P4S	35	62	14	13.5	1	1	15	14.590	11.620	0.15	31	93	187	31000	46500	
HS7007-E-T-P4S	35	62	14	18.3	1	1	25	13.810	11.060	0.15	51	152	304	28000	42000	
HS7008-C-T-P4S	40	68	15	14.7	1	1	15	15.320	13.110	0.185	34	101	201	28000	42000	
HS7008-E-T-P4S	40	68	15	20.1	1	1	25	14.470	12.430	0.185	53	160	321	25000	37500	
HS7009-C-T-P4S	45	75	16	16.0	1	1	15	18.980	16.560	0.24	43	130	259	25000	37500	
HS7009-E-T-P4S	45	75	16	22.0	1	1	25	17.930	15.700	0.24	70	210	421	23000	34500	
HS7010-C-T-P4S	50	80	16	16.7	1	1	15	21.090	18.370	0.25	45	135	269	24000	36000	
HS7010-E-T-P4S	50	80	16	23.2	1	1	25	21.090	18.370	0.25	72	216	431	21000	31500	
HS7011-C-T-P4S	55	90	18	18.7	1.1	1.1	15	23.980	22.710	0.39	62	187	374	21000	31500	
HS7011-E-T-P4S	55	90	18	25.9	1.1	1.1	25	22.640	21.550	0.39	101	304	607	19000	28500	
HS7012-C-T-P4S	60	95	18	19.4	1.1	1.1	15	24.340	23.970	0.41	65	194	388	20000	30000	
HS7012-E-T-P4S	60	95	18	27.1	1.1	1.1	25	22.970	22.570	0.41	105	316	631	18000	27000	
HS7013-C-T-P4S	65	100	18	20.1	1.1	1.1	15	24.680	25.060	0.44	67	201	402	19000	28500	
HS7013-E-T-P4S	65	100	18	28.2	1.1	1.1	25	23.270	23.470	0.44	109	328	656	17000	25500	
HS7014-C-T-P4S	70	110	20	22.1	1.1	1.1	15	34.960	35.780	0.61	87	261	523	17000	25500	
HS7014-E-T-P4S	70	110	20	31.0	1.1	1.1	25	32.990	33.800	0.61	141	423	845	15000	22500	
HS7015-C-T-P4S	75	115	20	22.7	1.1	1.1	15	35.480	37.440	0.65	89	266	533	16000	24000	
HS7015-E-T-P4S	75	115	20	32.1	1.1	1.1	25	33.490	35.260	0.65	144	431	863	15000	22500	

# Super Precision Angular Contact Ball Bearings

## HS70xx Series

HS70xx Highspeed Series	Steel Balls	CSC Super Precision bearings	Dimensions in mm							Also available as HSS (Sealed) Version					
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		α	dyn. C <sub>r</sub>		stat. C <sub>0r</sub>	m	Fv		
					min	min	°	N	N	kg	L (N)	M (N)	H (N)	min <sup>-1</sup>	min <sup>-1</sup>
HS7016-C-T-P4S	80	125	22	24.7	1.1	1.1	15	45.120	46.540	0.86	106	317	633	15000	22500
HS7016-E-T-P4S	80	125	22	34.9	1.1	1.1	25	42.590	44.100	0.86	173	518	1.035	14000	21000
HS7017-C-T-P4S	85	130	22	25.4	1.1	1.1	15	47.130	50.870	0.9	107	322	643	14000	21000
HS7017-E-T-P4S	85	130	22	36.1	1.1	1.1	25	44.480	47.910	0.9	173	518	1.035	13000	19500
HS7018-C-T-P4S	90	140	24	27.4	1.5	1.5	15	48.820	55.000	1.2	126	377	754	14000	21000
HS7018-E-T-P4S	90	140	24	38.8	1.5	1.5	25	46.040	51.550	1.2	204	612	1.225	12000	18000
HS7019-C-T-P4S	95	145	24	28.1	1.5	1.5	15	60.220	66.160	1.2	127	382	764	13000	19500
HS7019-E-T-P4S	95	145	24	40.0	1.5	1.5	25	56.840	62.490	1.2	204	612	1.225	12000	18000
HS7020-C-T-P4S	100	150	24	28.7	1.5	1.5	15	61.240	69.060	1.35	127	382	764	12000	18000
HS7020-E-T-P4S	100	150	24	41.1	1.5	1.5	25	57.800	65.040	1.35	207	621	1.242	11000	16500

Also available as HSS Version

# Super Precision Angular Contact Ball Bearings

## HS719xx Series

HS719xx Highspeed Series   Steel Balls   CSC Super Precision bearings   Dimensions in mm   Also available as HSS (Sealed) Version																
designation	dimensions						contact angle $\alpha$ °	load ratings		weight m kg	preload			limiting speed		
	d	D	B	a	r	$r_1$		dyn. $C_r$	stat. $C_{0r}$		Fv	L (N)	M (N)	H (N)	$n_{G-Grease}$ min <sup>-1</sup>	$n_{G-Oil}$ min <sup>-1</sup>
					min	min		N	N							
HS71900-C-T-P4S	10	22	6	5.1	0.3	0.1	15	2.500	1.320	0.01	7	20	39	94000	140000	
HS71900-E-T-P4S	10	22	6	6.7	0.3	0.1	25	2.380	1.260	0.01	11	32	64	85000	127500	
HS71901-C-T-P4S	12	24	6	5.4	0.3	0.1	15	2.750	1.590	0.011	7	21	41	84000	126000	
HS71901-E-T-P4S	12	24	6	7.2	0.3	0.1	25	2.610	1.510	0.011	11	33	67	75000	112500	
HS71902-C-T-P4S	15	28	7	6.4	0.3	0.3	15	2.930	1.880	0.017	9	28	56	70000	105000	
HS71902-E-T-P4S	15	28	7	8.5	0.3	0.3	25	2.770	1.790	0.017	15	46	91	63000	94500	
HS71903-C-T-P4S	17	30	7	6.6	0.3	0.3	15	3.120	2.150	0.019	10	29	58	64000	96000	
HS71903-E-T-P4S	17	30	7	9.0	0.3	0.3	25	2.950	2.040	0.019	16	47	93	58000	87000	
HS71904-C-T-P4S	20	37	9	8.3	0.3	0.3	15	5.630	3.780	0.036	13	39	78	53000	79500	
HS71904-E-T-P4S	20	37	9	11.1	0.3	0.3	25	5.340	3.590	0.036	22	65	129	48000	72000	
HS71905-C-T-P4S	25	42	9	9.0	0.3	0.3	15	6.160	4.630	0.041	14	43	85	45000	67500	
HS71905-E-T-P4S	25	42	9	12.3	0.3	0.3	25	5.820	4.390	0.041	23	69	138	41000	61500	
HS71906-C-T-P4S	30	47	9	9.7	0.3	0.3	15	6.400	5.240	0.05	21	64	129	39000	58500	
HS71906-E-T-P4S	30	47	9	13.5	0.3	0.3	25	6.040	4.940	0.05	35	104	207	36000	54000	
HS71907-C-T-P4S	35	55	10	11.0	0.6	0.6	15	6.760	5.990	0.08	23	70	140	34000	51000	
HS71907-E-T-P4S	35	55	10	15.5	0.6	0.6	25	6.370	5.580	0.08	38	113	226	30000	45000	
HS71908-C-T-P4S	40	62	12	12.8	0.6	0.6	15	9.780	9.040	0.11	24	72	145	30000	45000	
HS71908-E-T-P4S	40	62	12	17.9	0.6	0.6	25	9.210	8.420	0.11	39	117	235	27000	40500	
HS71909-C-T-P4S	45	68	12	13.6	0.6	0.6	15	10.050	9.660	0.13	34	101	201	27000	40500	
HS71909-E-T-P4S	45	68	12	19.2	0.6	0.6	25	9.460	9.010	0.13	55	164	328	24000	36000	
HS71910-C-T-P4S	50	72	12	14.2	0.6	0.6	15	10.340	10.300	0.135	35	105	209	25000	37500	
HS71910-E-T-P4S	50	72	12	20.2	0.6	0.6	25	9.740	9.610	0.135	56	169	338	23000	34500	
HS71911-C-T-P4S	55	80	13	15.5	1	1	15	13.510	13.600	0.18	45	135	269	23000	34500	
HS71911-E-T-P4S	55	80	13	22.2	1	1	25	12.720	12.680	0.18	73	219	438	20000	30000	
HS71912-C-T-P4S	60	85	13	16.2	1	1	15	13.900	14.470	0.2	47	141	281	21000	31500	
HS71912-E-T-P4S	60	85	13	23.4	1	1	25	13.090	13.500	0.2	76	228	455	19000	28500	
HS71913-C-T-P4S	65	90	13	16.9	1	1	15	14.270	15.350	0.21	48	144	287	20000	30000	
HS71913-E-T-P4S	65	90	13	24.6	1	1	25	13.420	14.320	0.21	77	231	462	18000	27000	
HS71914-C-T-P4S	70	100	16	19.4	1	1	15	18.340	20.120	0.35	61	184	368	18000	27000	
HS71914-E-T-P4S	70	100	16	27.8	1	1	25	17.260	18.770	0.35	99	298	597	16000	24000	
HS71915-C-T-P4S	75	105	16	20.1	1	1	15	18.820	21.270	0.37	64	191	382	17000	25500	
HS71915-E-T-P4S	75	105	16	29.0	1	1	25	17.700	19.850	0.37	101	304	607	15000	22500	

# Super Precision Angular Contact Ball Bearings

## HS719xx Series

HS719xx Highspeed Series | Steel Balls | CSC Super Precision bearings | Dimensions in mm | Also available as HSS (Sealed) Version

designation	dimensions						contact angle $\alpha$ °	load ratings		weight m kg	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		Fv			n <sub>G-Grease</sub>	n <sub>G-Oil</sub>
					min	min		N	N		L (N)	M (N)	H (N)	min <sup>-1</sup>	min <sup>-1</sup>
HS71916-C-T-P4S	80	110	16	20.7	1	1	15	21.030	24.030	0.37	71	213	426	16000	24000
HS71916-E-T-P4S	80	110	16	30.1	1	1	25	19.780	22.430	0.37	113	338	676	15000	22500
HS71917-C-T-P4S	85	120	18	22.7	1.1	1.1	15	21.810	25.980	0.57	74	221	442	15000	22500
HS71917-E-T-P4S	85	120	18	32.9	1.1	1.1	25	20.520	24.260	0.57	117	352	704	14000	21000
HS71918-C-T-P4S	90	125	18	23.4	1.1	1.1	15	23.790	28.370	0.58	79	237	474	14000	21000
HS71918-E-T-P4S	90	125	18	34.1	1.1	1.1	25	22.400	26.480	0.58	129	386	773	13000	19500
HS71919-C-T-P4S	95	130	18	24.1	1.1	1.1	15	24.390	29.840	0.6	82	246	492	14000	21000
HS71919-E-T-P4S	95	130	18	35.2	1.1	1.1	25	22.920	27.860	0.6	131	393	787	12000	18000
HS71920-C-T-P4S	100	140	20	26.1	1.1	1.1	15	29.260	35.980	0.85	97	291	583	13000	19500
HS71920-E-T-P4S	100	140	20	38.0	1.1	1.1	25	27.540	33.590	0.85	158	474	949	12000	18000

Also available as HSS Version

# Super Precision Angular Contact Ball Bearings

## HC70xx Series

HC70xx Highspeed Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as HCS (Sealed) Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		α	dyn. C <sub>r</sub>		stat. C <sub>0r</sub>	m	Fv	L	M
				min	min		°	N	N	kg	(N)	(N)	(N)	min <sup>-1</sup>	min <sup>-1</sup>
HC7000-C-T-P4S	10	26	8	6.4	0.3	0.3	15	3.180	1.640	0.02	6	20	39	105000	157500
HC7000-E-T-P4S	10	26	8	8.2	0.3	0.3	25	3.030	1.580	0.02	10	31	62	94000	140000
HC7001-C-T-P4S	12	28	8	6.7	0.3	0.3	15	3.330	1.830	0.021	6	19	38	94000	141000
HC7001-E-T-P4S	12	28	8	8.7	0.3	0.3	25	3.170	1.730	0.021	10	30	61	85000	127000
HC7002-C-T-P4S	15	32	9	7.6	0.3	0.3	15	3.910	2.460	0.028	9	27	53	80000	120000
HC7002-E-T-P4S	15	32	9	10.0	0.3	0.3	25	3.700	2.340	0.028	14	42	85	72000	108000
HC7003-C-T-P4S	17	35	10	8.5	0.3	0.3	15	6.970	4.010	0.04	9	27	53	73000	109500
HC7003-E-T-P4S	17	35	10	11.1	0.3	0.3	25	6.650	3.810	0.04	14	43	86	65000	97500
HC7004-C-T-P4S	20	42	12	10.2	0.6	0.6	15	9.660	5.880	0.066	15	43	88	61000	91500
HC7004-E-T-P4S	20	42	12	13.2	0.6	0.6	25	9.210	5.640	0.066	23	70	140	55000	82500
HC7005-C-T-P4S	25	47	12	10.8	0.6	0.6	15	10.460	6.920	0.074	15	44	89	53000	79500
HC7005-E-T-P4S	25	47	12	14.4	0.6	0.6	25	9.920	6.580	0.074	23	70	140	47000	70500
HC7006-C-T-P4S	30	55	13	12.2	1	1	15	12.180	8.600	0.117	20	62	124	45000	67500
HC7006-E-T-P4S	30	55	13	16.4	1	1	25	11.540	8.180	0.117	33	98	197	40000	60000
HC7007-C-T-P4S	35	62	14	13.5	1	1	15	14.590	11.100	0.15	22	65	131	39000	58500
HC7007-E-T-P4S	35	62	14	18.3	1	1	25	13.810	10.570	0.15	35	105	210	35000	52500
HC7008-C-T-P4S	40	68	15	14.7	1	1	15	15.320	12.530	0.185	24	71	141	35000	52500
HC7008-E-T-P4S	40	68	15	20.1	1	1	25	14.470	11.890	0.185	37	110	221	32000	48000
HC7009-C-T-P4S	45	75	16	16.0	1	1	15	18.980	15.830	0.24	30	91	181	32000	48000
HC7009-E-T-P4S	45	75	16	22.0	1	1	25	17.930	15.010	0.24	48	143	286	29000	43500
HC7010-C-T-P4S	50	80	16	16.7	1	1	15	21.090	18.550	0.25	32	95	188	29000	43500
HC7010-E-T-P4S	50	80	16	23.2	1	1	25	21.090	17.570	0.25	50	149	298	26000	39000
HC7011-C-T-P4S	55	90	18	18.7	1.1	1.1	15	23.980	21.730	0.39	43	131	262	26000	39000
HC7011-E-T-P4S	55	90	18	25.9	1.1	1.1	25	22.640	20.620	0.39	70	210	421	24000	36000
HC7012-C-T-P4S	60	95	18	19.4	1.1	1.1	15	24.340	22.940	0.41	46	136	272	25000	37500
HC7012-E-T-P4S	60	95	18	27.1	1.1	1.1	25	22.970	21.610	0.41	73	219	438	22000	33000
HC7013-C-T-P4S	65	100	18	20.1	1.1	1.1	15	24.680	23.990	0.44	47	141	281	23000	34500
HC7013-E-T-P4S	65	100	18	28.2	1.1	1.1	25	23.270	22.470	0.44	74	223	445	21000	31500
HC7014-C-T-P4S	70	110	20	22.1	1.1	1.1	15	34.960	34.250	0.61	61	183	366	21000	31500
HC7014-E-T-P4S	70	110	20	31.0	1.1	1.1	25	32.990	32.350	0.61	98	293	587	19000	28500
HC7015-C-T-P4S	75	115	20	22.7	1.1	1.1	15	35.480	35.840	0.65	62	186	373	20000	30000
HC7015-E-T-P4S	75	115	20	32.1	1.1	1.1	25	33.490	33.750	0.65	99	298	597	18000	27000

# Super Precision Angular Contact Ball Bearings

## HC70xx Series

HC70xx Highspeed Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as HCS (Sealed) Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		m	Fv			n <sub>G-Grease</sub>
					min	min	°	N	N	kg	L (N)	M (N)	H (N)	min <sup>-1</sup>	min <sup>-1</sup>
HC7016-C-T-P4S	80	125	22	24.7	1.1	1.1	15	45.120	44.530	0.86	74	222	443	19000	28500
HC7016-E-T-P4S	80	125	22	34.9	1.1	1.1	25	42.590	42.210	0.86	117	352	704	17000	25500
HC7017-C-T-P4S	85	130	22	25.4	1.1	1.1	15	47.130	48.690	0.9	75	225	450	18000	27000
HC7017-E-T-P4S	85	130	22	36.1	1.1	1.1	25	44.480	45.860	0.9	120	359	718	16000	24000
HC7018-C-T-P4S	90	140	24	27.4	1.5	1.5	15	48.820	52.650	1.2	88	264	528	17000	25500
HC7018-E-T-P4S	90	140	24	38.8	1.5	1.5	25	46.040	49.360	1.2	141	423	845	15000	22500
HC7019-C-T-P4S	95	145	24	28.1	1.5	1.5	15	60.220	63.320	1.2	89	267	535	16000	24000
HC7019-E-T-P4S	95	145	24	40.0	1.5	1.5	25	56.840	59.820	1.2	141	423	845	15000	22500
HC7020-C-T-P4S	100	150	24	28.7	1.5	1.5	15	61.240	66.110	1.35	89	267	535	15000	22500
HC7020-E-T-P4S	100	150	24	41.1	1.5	1.5	25	57.800	62.270	1.35	144	431	863	14000	21000

Also available as HCS Version

# Super Precision Angular Contact Ball Bearings

## HC719xx Series

HC719xx Highspeed Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as HCS (Sealed) Version																
designation	dimensions						contact angle $\alpha$ °	load ratings		weight m kg	preload			limiting speed		
	d	D	B	a	r	r <sub>1</sub>		dyn. C <sub>r</sub>	stat. C <sub>0r</sub>		Fv	L (N)	M (N)	H (N)	n <sub>G-Grease</sub> min <sup>-1</sup>	n <sub>G-Oil</sub> min <sup>-1</sup>
					min	min		N	N							
HC71900-C-T-P4S	10	22	6	5.1	0.3	0.1	15	2.500	1.260	0.01	5	14	27	118000	177000	
HC71900-E-T-P4S	10	22	6	6.7	0.3	0.1	25	2.380	1.210	0.01	7	22	45	106000	159000	
HC71901-C-T-P4S	12	24	6	5.4	0.3	0.1	15	2.750	1.510	0.011	5	15	29	105000	157500	
HC71901-E-T-P4S	12	24	6	7.2	0.3	0.1	25	2.610	1.430	0.011	8	23	46	94000	141000	
HC71902-C-T-P4S	15	28	7	6.4	0.3	0.3	15	2.930	1.790	0.017	6	20	39	88000	132000	
HC71902-E-T-P4S	15	28	7	8.5	0.3	0.3	25	2.770	1.700	0.017	11	32	63	79000	118500	
HC71903-C-T-P4S	17	30	7	6.6	0.3	0.3	15	3.120	2.050	0.019	7	20	41	80000	120000	
HC71903-E-T-P4S	17	30	7	9.0	0.3	0.3	25	2.950	1.940	0.019	11	33	66	72000	108000	
HC71904-C-T-P4S	20	37	9	8.3	0.3	0.3	15	5.630	3.600	0.036	9	27	55	66000	99000	
HC71904-E-T-P4S	20	37	9	11.1	0.3	0.3	25	5.340	3.420	0.036	15	44	88	60000	90000	
HC71905-C-T-P4S	25	42	9	9.0	0.3	0.3	15	6.160	4.420	0.041	10	30	60	56000	84000	
HC71905-E-T-P4S	25	42	9	12.3	0.3	0.3	25	5.820	4.190	0.041	16	47	95	51000	76500	
HC71906-C-T-P4S	30	47	9	9.7	0.3	0.3	15	6.400	5.010	0.05	15	45	90	49000	73500	
HC71906-E-T-P4S	30	47	9	13.5	0.3	0.3	25	6.040	4.720	0.05	24	72	143	44000	66000	
HC71907-C-T-P4S	35	55	10	11.0	0.6	0.6	15	6.760	5.730	0.08	16	49	98	42000	63000	
HC71907-E-T-P4S	35	55	10	15.5	0.6	0.6	25	6.370	5.340	0.08	26	78	155	38000	57000	
HC71908-C-T-P4S	40	62	12	12.8	0.6	0.6	15	9.780	8.650	0.11	17	50	102	37000	55500	
HC71908-E-T-P4S	40	62	12	17.9	0.6	0.6	25	9.210	8.060	0.11	27	82	164	34000	51000	
HC71909-C-T-P4S	45	68	12	13.6	0.6	0.6	15	10.050	9.240	0.13	24	71	141	34000	51000	
HC71909-E-T-P4S	45	68	12	19.2	0.6	0.6	25	9.460	8.610	0.13	38	113	226	30000	45000	
HC71910-C-T-P4S	50	72	12	14.2	0.6	0.6	15	10.340	9.850	0.135	25	74	146	31000	46500	
HC71910-E-T-P4S	50	72	12	20.2	0.6	0.6	25	9.740	9.180	0.135	39	116	231	28000	42000	
HC71911-C-T-P4S	55	80	13	15.5	1	1	15	13.510	13.010	0.18	32	95	188	28000	42000	
HC71911-E-T-P4S	55	80	13	22.2	1	1	25	12.720	12.130	0.18	51	152	304	25000	37500	
HC71912-C-T-P4S	60	85	13	16.2	1	1	15	13.900	13.840	0.2	33	99	197	26000	39000	
HC71912-E-T-P4S	60	85	13	23.4	1	1	25	13.090	12.910	0.2	52	155	311	24000	36000	
HC71913-C-T-P4S	65	90	13	16.9	1	1	15	14.270	14.670	0.21	34	101	201	25000	37500	
HC71913-E-T-P4S	65	90	13	24.6	1	1	25	13.420	13.690	0.21	53	160	321	22000	33000	
HC71914-C-T-P4S	70	100	16	19.4	1	1	15	18.340	19.240	0.35	43	129	258	23000	34500	
HC71914-E-T-P4S	70	100	16	27.8	1	1	25	17.260	17.950	0.35	69	207	414	20000	30000	
HC71915-C-T-P4S	75	105	16	20.1	1	1	15	18.820	20.340	0.37	45	134	267	21000	31500	
HC71915-E-T-P4S	75	105	16	29.0	1	1	25	17.700	18.980	0.37	70	210	421	19000	28500	



# Super Precision Angular Contact Ball Bearings

## HC719xx Series

HC719xx Highspeed Series   Ceramic Balls   CSC Super Precision bearings   Dimensions in mm   Also available as HCS (Sealed) Version															
designation	dimensions						contact angle	load ratings		weight	preload			limiting speed	
	d	D	B	a	r	r <sub>1</sub>		α	dyn. C <sub>r</sub>		stat. C <sub>0r</sub>	m	Fv	L	M
				min	min		°	N	N	kg	(N)	(N)	(N)	min <sup>-1</sup>	min <sup>-1</sup>
HC71916-C-T-P4S	80	110	16	20.7	1	1	15	21.030	22.980	0.37	50	149	298	20000	30000
HC71916-E-T-P4S	80	110	16	30.1	1	1	25	19.780	21.440	0.37	79	236	473	18000	27000
HC71917-C-T-P4S	85	120	18	22.7	1.1	1.1	15	21.810	24.840	0.57	52	155	309	19000	28500
HC71917-E-T-P4S	85	120	18	32.9	1.1	1.1	25	20.520	23.190	0.57	82	247	493	17000	25500
HC71918-C-T-P4S	90	125	18	23.4	1.1	1.1	15	23.790	27.120	0.58	55	166	332	18000	27000
HC71918-E-T-P4S	90	125	18	34.1	1.1	1.1	25	22.400	25.310	0.58	90	269	538	16000	24000
HC71919-C-T-P4S	95	130	18	24.1	1.1	1.1	15	24.390	28.520	0.6	57	172	344	17000	25500
HC71919-E-T-P4S	95	130	18	35.2	1.1	1.1	25	22.920	26.630	0.6	92	276	552	15000	22500
HC71920-C-T-P4S	100	140	20	26.1	1.1	1.1	15	29.260	34.400	0.85	68	204	408	16000	24000
HC71920-E-T-P4S	100	140	20	38.0	1.1	1.1	25	27.540	32.110	0.85	109	328	656	15000	22500

Also available as HCS Version

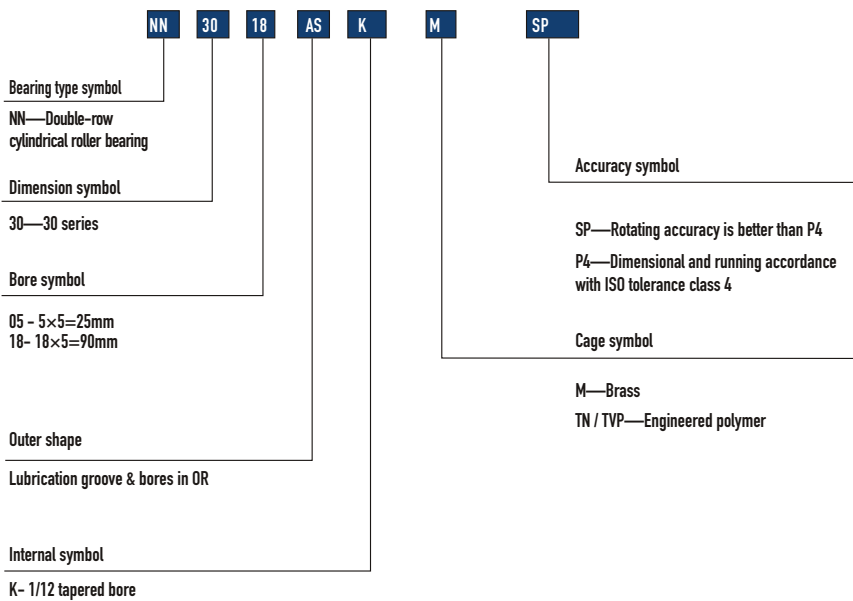
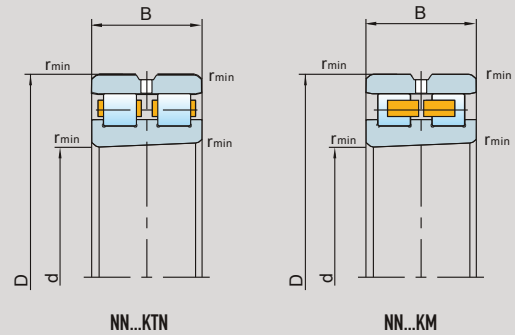
## Customized Spindle Bearings

- We supply with a grease of your choice (for example Lubcon or Klüber Speed)
- All super precision bearings can be provided as sealed versions (RSD)
- Even HCB72.. Series is available on demand
- All spindle bearings can be offered with light (L), medium (M) or heavy (H) preload
- Sets of 2,3 or 4 bearing in a special arrangement are available on demand
- Specific datasheets can be downloaded from our website [www.csc-bearing.eu](http://www.csc-bearing.eu)
- Bearing data are also available as database for MESYS software

# Double Row Cylindrical Roller bearings | NN30.. series

CSC double-row cylindrical roller bearings are available with either a cylindrical or a tapered bore (taper 1:12). In machine tool applications, cylindrical roller bearings with a tapered bore are preferred, because the taper enables more accurate adjustment of clearance or preload during installation.

In order to facilitate efficient lubrication, the bearings in the NN series have an annular groove and three lubrication holes in the outer ring. CSC double-row cylindrical roller bearings are fitted, depending on the size with either machined brass cage or engineered polymer cage.



High precision cylindrical roller bearings															
designation	mass	dimensions							axial displacement			load ratings		limiting speed	
		d	D	B	r	E	d <sub>1</sub>	d <sub>s</sub>	n <sub>s</sub>	s	dyn. C <sub>r</sub>	stat. C <sub>0r</sub>	n <sub>60L</sub>	n <sub>6Fett</sub>	
	kg	mm	mm	mm	mm	mm	mm	mm	mm	mm	N	N	min <sup>-1</sup>	min <sup>-1</sup>	
NN3006-AS-K-M-SP	0.19	30	55	19	1	48,5	38,9	2	3,5	1,1	33200	38500	19000	16000	
NN3007-AS-K-M-SP	0.25	35	62	20	1	55	45,4	2,5	5	1,3	38100	48200	17000	14000	
NN3008-AS-K-M-SP	0.3	40	68	21	1	61	50,6	2,5	5	1,4	43300	55400	15000	12000	
NN3009-AS-K-M-SP	0.39	45	75	23	1	67,5	56,3	2,5	5	1,4	51800	68600	14000	11000	
NN3010-AS-K-M-SP	0.43	50	80	23	1	72,5	61,3	2,5	5	1,4	54900	75900	13000	10000	
NN3011-AS-K-M-SP	0.63	55	90	26	1,1	81	68,2	2,5	5	1,3	70100	98000	11000	9000	
NN3012-AS-K-M-SP	0.67	60	95	26	1,1	86,1	73,3	2,5	5	1,3	73800	107000	10000	8500	
NN3013-AS-K-M-SP	0.71	65	100	26	1,1	91	78,2	2,5	5	1,3	75300	112000	9500	8000	
NN3014-AS-K-M-SP	1.04	70	110	30	1,1	100	85,6	2,5	5	1,6	92700	139000	8500	7000	
NN3015-AS-K-M-SP	1.09	75	115	30	1,1	105	90,6	2,5	5	1,6	97400	151000	8000	6700	
NN3016-AS-K-M-SP	1.51	80	125	34	1,1	113	97,1	3	6	1,7	117000	181000	7500	6300	
NN3017-AS-K-M-SP	1.58	85	130	34	1,1	118	102	3,2	6,5	1,7	119000	189000	7000	6000	
NN3018-AS-K-M-SP	2.05	90	140	37	1,5	127	109,5	3,2	6,5	1,8	144000	231000	6700	5600	
NN3019-AS-K-M-SP	2.14	95	145	37	1,5	132	114,4	3	6	1,8	147000	241000	6300	5300	
NN3020-AS-K-M-SP	2.23	100	150	37	1,5	137	119,5	3,2	6,5	1,8	150000	251000	6300	5300	
NN3021-AS-K-M-SP	2.84	105	160	41	2	146	125,3	3,2	6,5	1,9	192000	311000	5600	4800	
NN3022-AS-K-M-SP	3.61	110	170	45	2	155	132,7	4	8	2	216000	349000	5300	4500	
NN3024-AS-K-M-SP	3.94	120	180	46	2	165	142,7	4	8	2,1	227000	380000	5000	4300	
NN3026-AS-K-M-SP	5.78	130	200	52	2	182	156,5	4	8	2,9	284000	476000	4500	3800	
NN3028-AS-K-M-SP	6.02	140	210	53	2	192	166,5	4,5	9	3	297000	516000	4300	3600	
NN3030-AS-K-M-SP	8.91	150	225	56	2,1	206	178,9	4,5	9	2,9	334000	587000	4000	3400	

# RTC Series Comparable to YRT

Application: Spindles of machine tools, bearings for rotary tables

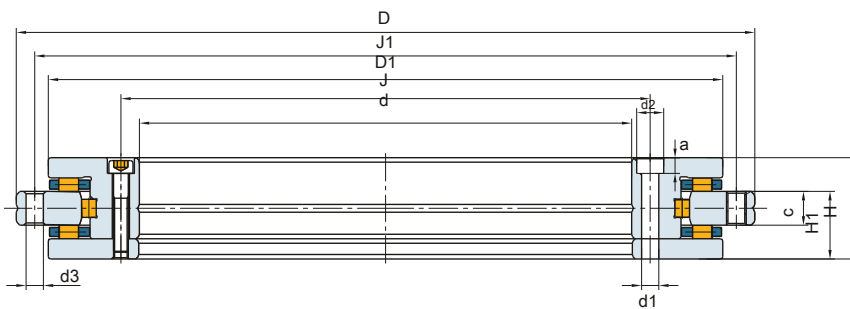
### Features:

Axial / Radial bearings RTC series are large, double direction axial bearings with a radial guidance bearing. Holes are provided in the outer ring. Geometrical tolerances are within tolerance class ISO 4. Combination of two axial needle roller bearings and one radial cylindrical roller bearing.

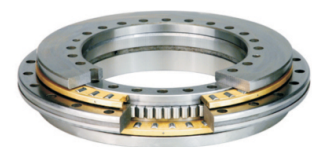
The axial component consists of two axial needle roller and cage assemblies. The radial component of the bearing is fully complemented and lightly preloaded. They can be relubricated through the outer ring and the L-section ring. The number of lubrication holes is determined by the bearings size.

### Arrangement Tolerance

Center rings usually tightened to the machine. In order to locate the center correctly, the inner and outer supporting housing should meet the tolerance range of h6 and J7. All the screws need to be cross tightened by torque spanner.



RTC



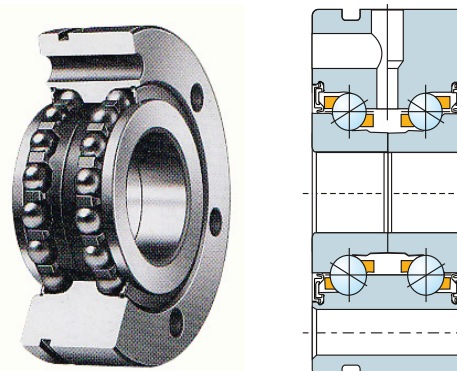
Product Table Rotary Table Bearing Dimensions in mm																								
Product Code	Weight kg	Dimensions										Mounting bores				Pitch t	Unlock Screw		Basic Load Rating				Limiting Speed $n_6$ min <sup>-1</sup>	
		d	D	H	H <sub>1</sub>	H <sub>2</sub>	C	D <sub>1</sub> max.	J	J <sub>1</sub>	Inner Ring		Outer Ring		Quantity Xt		G	Quantity	axial		radial			
											d <sub>1</sub>	d <sub>2</sub>	a	Quantity					d <sub>3</sub>	Quantity	dyn. Ca N	stat. C <sub>0a</sub> N		dyn. Cr N
RTC80	2.4	80	146	35	23	12	12	130	92	138	6	10	4	10	5	12	12×30°	-	-	32.200	139.000	40.000	71.800	350
RTC100	4.1	100	185	38	25	13	12	161	112	170	6	10	5	16	6	15	18×20°	M5	3	53.400	285.000	54.200	121.800	280
RTC120	5.3	120	210	40	26	14	12	185	135	195	7	11	6	22	7	21	24×15°	M8	3	75.500	415.800	64.500	142.000	230
RTC150	6.2	150	240	40	26	14	12	214	165	225	7	11	6	34	7	33	36×10°	M8	3	56.400	343.000	67.400	183.700	210
RTC180	7.7	180	280	43	29	14	15	244	194	260	7	11	6	46	7	45	48×7.5°	M8	3	92.000	580.000	83.000	209.000	190
RTC200	9.7	200	300	45	30	15	15	274	215	285	7	11	6	46	7	45	48×7.5°	M8	3	85.000	554.400	81.900	227.100	170
RTC260	18.3	260	385	55	37	19	18	345	280	365	9	15	8	34	9	33	36×10°	M12	3	95.400	693.000	93.100	290.000	130

## ZKLFxx Series | Axial Angular Contact Ball Bearings

High load carrying capacity, high rigidity, high preload capability. Relubrication is possible via radial and an axial threaded hole.

ZKLF series can be forced from both sides with heavy load, with high rigidity and low cross section. Due to these elements, ZKLF meet all the accuracy requirements of a modern precision machine. The bearings don't need any set parts and adjustment during fitting because of flange.

The lubrication holes are sealed by countersunk bolt and in order to be dismounted easily there is a groove on the surface of the outer ring.



ZKLF Dimension table - Dimensions in mm

Designation	Weight kg	Dimensions								Fixing screws		Basic load ratings axial		Limiting speed $n_g$ grease min <sup>-1</sup>	thermal safe operating speed $n_s$ min <sup>-1</sup>
		d	D	B -0.25	r1 min.	r1s min.	J	b	l	Size	Quantity Xt	dyn. C <sub>a</sub> N	stat C <sub>0a</sub> N		
ZKLF1255-2RS	0.37	12 <sub>-0.005</sub>	55 <sub>-0.01</sub>	25	0.3	0.6	42	3	17	M6	3*120°	17200	24700	9200	3800
ZKLF1255-ZZ	0.37	12 <sub>-0.005</sub>	55 <sub>-0.01</sub>	25	0.3	0.6	42	3	17	M6	3*120°	17200	24700	12000	7600
ZKLF1560-2RS	0.43	15 <sub>-0.005</sub>	60 <sub>-0.01</sub>	25	0.3	0.6	46	3	17	M6	3*120°	18200	28000	8200	3500
ZKLF1560-ZZ	0.43	15 <sub>-0.005</sub>	60 <sub>-0.01</sub>	25	0.3	0.6	46	3	17	M6	3*120°	18200	28000	10800	7000
ZKLF1762-2RS	0.45	17 <sub>-0.005</sub>	62 <sub>-0.01</sub>	25	0.3	0.6	48	3	17	M6	3*120°	19100	31000	7600	3300
ZKLF1762-ZZ	0.45	17 <sub>-0.005</sub>	62 <sub>-0.01</sub>	25	0.3	0.6	48	3	17	M6	3*120°	19100	31000	10100	6600
ZKLF2068-2RS	0.61	20 <sub>-0.005</sub>	68 <sub>-0.01</sub>	28	0.3	0.6	53	3	19	M6	4*90°	26300	47000	6600	3000
ZKLF2068-ZZ	0.61	20 <sub>-0.005</sub>	68 <sub>-0.01</sub>	28	0.3	0.6	53	3	19	M6	4*90°	26300	47000	8700	5400
ZKLF2575-2RS	0.72	25 <sub>-0.005</sub>	75 <sub>-0.01</sub>	28	0.3	0.6	58	3	19	M6	4*90°	28100	55000	5700	2600
ZKLF2575-ZZ	0.72	25 <sub>-0.005</sub>	75 <sub>-0.01</sub>	28	0.3	0.6	58	3	19	M6	4*90°	28100	55000	7500	4700
ZKLF3080-2RS	0.78	30 <sub>-0.005</sub>	80 <sub>-0.01</sub>	28	0.3	0.6	63	3	19	M6	6*60°	29700	64000	5000	2200
ZKLF3080-ZZ	0.78	30 <sub>-0.005</sub>	80 <sub>-0.01</sub>	28	0.3	0.6	63	3	19	M6	6*60°	29700	64000	6700	4300
ZKLF30100-2RS	1.63	30 <sub>-0.005</sub>	100 <sub>-0.01</sub>	38	0.3	0.6	80	3	30	M8	8*45°	65000	108000	4500	2100
ZKLF30100-ZZ	1.63	30 <sub>-0.005</sub>	100 <sub>-0.01</sub>	38	0.3	0.6	80	3	30	M8	8*45°	65000	108000	5600	4000
ZKLF3590-2RS	1.13	35 <sub>-0.005</sub>	90 <sub>-0.01</sub>	34	0.3	0.6	75	3	25	M8	4*90°	45000	89000	4400	2000
ZKLF3590-ZZ	1.13	35 <sub>-0.005</sub>	90 <sub>-0.01</sub>	34	0.3	0.6	75	3	25	M8	4*90°	45000	89000	5800	3800
ZKLF40100-2RS	1.46	40 <sub>-0.005</sub>	100 <sub>-0.01</sub>	34	0.3	0.6	80	3	25	M8	4*90°	43800	101000	4000	1800
ZKLF40100-ZZ	1.46	40 <sub>-0.005</sub>	100 <sub>-0.01</sub>	34	0.3	0.6	80	3	25	M8	4*90°	43800	101000	5200	3300
ZKLF40115-2RS	2.2	40 <sub>-0.005</sub>	115 <sub>-0.01</sub>	46	0.6	0.6	94	3	36	M8	12*30°	79000	149000	3500	1600
ZKLF40115-ZZ	2.2	40 <sub>-0.005</sub>	115 <sub>-0.01</sub>	46	0.6	0.6	94	3	36	M8	12*30°	79000	149000	4400	3100
ZKLF50115-2RS	1.86	50 <sub>-0.005</sub>	115 <sub>-0.01</sub>	34	0.3	0.6	94	3	25	M8	6*60°	47500	126000	3200	1500
ZKLF50115-ZZ	1.86	50 <sub>-0.005</sub>	115 <sub>-0.01</sub>	34	0.3	0.6	94	3	25	M8	6*60°	47500	126000	4200	3000
ZKLF1255-2RS-PE	0.37	12 <sub>-0.01</sub>	55 <sub>-0.013</sub>	25	0.3	0.6	42	3	17	M6	3*120°	16900	24700	9200	3800
ZKLF1560-2RS-PE	0.43	15 <sub>-0.01</sub>	60 <sub>-0.013</sub>	25	0.3	0.6	46	3	17	M6	3*120°	17900	28000	8200	3500
ZKLF1762-2RS-PE	0.45	17 <sub>-0.01</sub>	62 <sub>-0.013</sub>	25	0.3	0.6	48	3	17	M6	3*120°	18800	31000	7600	3300
ZKLF2068-2RS-PE	0.61	20 <sub>-0.01</sub>	68 <sub>-0.013</sub>	28	0.3	0.6	53	3	19	M6	4*90°	26000	47000	6600	3000
ZKLF2575-2RS-PE	0.72	25 <sub>-0.01</sub>	75 <sub>-0.013</sub>	28	0.3	0.6	58	3	19	M6	4*90°	27500	55000	5700	2600
ZKLF3080-2RS-PE	0.78	30 <sub>-0.01</sub>	80 <sub>-0.013</sub>	28	0.3	0.6	63	3	19	M6	6*60°	29000	64000	5000	2200
ZKLF3590-2RS-PE	1.13	35 <sub>-0.01</sub>	90 <sub>-0.015</sub>	34	0.3	0.6	75	3	25	M8	4*90°	41000	89000	4400	2000
ZKLF40100-2RS-PE	1.46	40 <sub>-0.01</sub>	100 <sub>-0.015</sub>	34	0.3	0.6	80	3	25	M8	4*90°	43000	101000	4000	1800
ZKLF50115-2RS-PE	1.86	50 <sub>-0.01</sub>	115 <sub>-0.015</sub>	34	0.3	0.6	94	3	25	M8	6*60°	46500	126000	3200	1500

# ZKLNxx Series

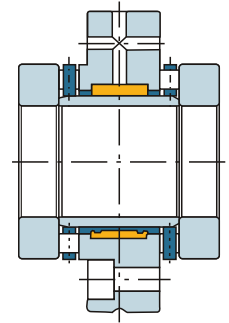
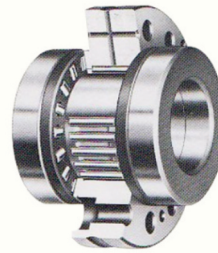
Features: High load carrying capacity, high rigidity and high preload capability. ZLKN series are preloaded initially. They can be used in matched pairs as 2AP version.

ZKLN Dimension table – Dimensions in mm										
Designation	Weight kg	Dimensions					Basic load ratings axial		Limiting speed $n_g$ grease $\text{min}^{-1}$	thermal safe operating speed $n_g$ $\text{min}^{-1}$
		d	D	B -0.25	r min.	$r_1$ min.	dyn. $C_a$ N	stat $C_{0a}$ N		
ZKLN1034-2RS	0.1	10 <sub>-0.005</sub>	34 <sub>-0.010</sub>	20	0.3	0.6	14700	18800	10900	4600
ZKLN1034-ZZ	0.1	10 <sub>-0.005</sub>	34 <sub>-0.010</sub>	20	0.3	0.6	14700	18800	14400	8600
ZKLN1242-2RS	0.2	12 <sub>-0.005</sub>	42 <sub>-0.010</sub>	25	0.3	0.6	17200	24700	9200	3800
ZKLN1242-ZZ	0.2	12 <sub>-0.005</sub>	42 <sub>-0.010</sub>	25	0.3	0.6	17200	24700	12000	7600
ZKLN1545-2RS	0.21	15 <sub>-0.005</sub>	45 <sub>-0.010</sub>	25	0.3	0.6	18200	28000	8200	3500
ZKLN1545-ZZ	0.21	15 <sub>-0.005</sub>	45 <sub>-0.010</sub>	25	0.3	0.6	18200	28000	10800	7000
ZKLN1747-2RS	0.22	17 <sub>-0.005</sub>	47 <sub>-0.010</sub>	25	0.3	0.6	19100	31000	7600	3300
ZKLN1747-ZZ	0.22	17 <sub>-0.005</sub>	47 <sub>-0.010</sub>	25	0.3	0.6	19100	31000	10100	6600
ZKLN2052-2RS	0.31	20 <sub>-0.005</sub>	52 <sub>-0.010</sub>	28	0.3	0.6	26300	47000	6600	3000
ZKLN2052-ZZ	0.31	20 <sub>-0.005</sub>	52 <sub>-0.010</sub>	28	0.3	0.6	26300	47000	8700	5400
ZKLN2557-2RS	0.34	25 <sub>-0.005</sub>	57 <sub>-0.010</sub>	28	0.3	0.6	28100	55000	5700	2600
ZKLN2557-ZZ	0.34	25 <sub>-0.005</sub>	57 <sub>-0.010</sub>	28	0.3	0.6	28100	55000	7500	4700
ZKLN3062-2RS	0.39	30 <sub>-0.005</sub>	62 <sub>-0.010</sub>	28	0.3	0.6	29700	64000	5000	2200
ZKLN3062-ZZ	0.39	30 <sub>-0.005</sub>	62 <sub>-0.010</sub>	28	0.3	0.6	29700	64000	6700	4300
ZKLN3072-2RS	0.72	30 <sub>-0.005</sub>	72 <sub>-0.010</sub>	38	0.3	0.6	65000	108000	4500	2100
ZKLN3072-ZZ	0.72	30 <sub>-0.005</sub>	72 <sub>-0.010</sub>	38	0.3	0.6	65000	108000	5600	4000
ZKLN3572-2RS	0.51	35 <sub>-0.005</sub>	72 <sub>-0.010</sub>	34	0.3	0.6	45000	89000	4400	2000
ZKLN3572-ZZ	0.51	35 <sub>-0.005</sub>	72 <sub>-0.010</sub>	34	0.3	0.6	45000	89000	5800	3800
ZKLN4075-2RS	0.61	40 <sub>-0.005</sub>	75 <sub>-0.010</sub>	34	0.3	0.6	43800	101000	4000	1800
ZKLN4075-ZZ	0.61	40 <sub>-0.005</sub>	75 <sub>-0.010</sub>	34	0.3	0.6	43800	101000	5200	3300
ZKLN4090-2RS	0.95	40 <sub>-0.005</sub>	90 <sub>-0.010</sub>	46	0.6	0.6	79000	149000	3500	1600
ZKLN4090-ZZ	0.95	40 <sub>-0.005</sub>	90 <sub>-0.010</sub>	46	0.6	0.6	79000	149000	4400	3100
ZKLN5090-2RS	0.88	50 <sub>-0.005</sub>	90 <sub>-0.010</sub>	34	0.3	0.6	47500	126000	3200	1500
ZKLN5090-ZZ	0.88	50 <sub>-0.005</sub>	90 <sub>-0.010</sub>	34	0.3	0.6	47500	126000	4200	3000
ZKLN50110-2RS	2.5	50 <sub>-0.005</sub>	110 <sub>-0.010</sub>	54	0.6	0.6	125000	250000	2900	1200
ZKLN50110-ZZ	2.5	50 <sub>-0.005</sub>	110 <sub>-0.010</sub>	54	0.6	0.6	125000	250000	3500	2500
ZKLN1034-2RS-PE	0.1	10 <sub>-0.008</sub>	34 <sub>-0.011</sub>	20	0.3	0.6	13400	18800	10900	4600
ZKLN1242-2RS-PE	0.2	12 <sub>-0.01</sub>	42 <sub>-0.011</sub>	25	0.3	0.6	16900	24700	9200	3800
ZKLN1545-2RS-PE	0.21	15 <sub>-0.01</sub>	45 <sub>-0.011</sub>	25	0.3	0.6	17900	28000	8200	3500
ZKLN1747-2RS-PE	0.22	17 <sub>-0.01</sub>	47 <sub>-0.011</sub>	25	0.3	0.6	18800	31000	7600	3300
ZKLN2052-2RS-PE	0.31	20 <sub>-0.01</sub>	52 <sub>-0.013</sub>	28	0.3	0.6	26000	47000	6600	3000
ZKLN2557-2RS-PE	0.34	25 <sub>-0.01</sub>	57 <sub>-0.013</sub>	28	0.3	0.6	27500	55000	5700	2600
ZKLN3062-2RS-PE	0.39	30 <sub>-0.01</sub>	62 <sub>-0.013</sub>	28	0.3	0.6	29000	64000	5000	2200
ZKLN3572-2RS-PE	0.51	35 <sub>-0.01</sub>	72 <sub>-0.013</sub>	34	0.3	0.6	41000	89000	4400	2000
ZKLN5090-2RS-PE	0.88	50 <sub>-0.01</sub>	90 <sub>-0.015</sub>	34	0.3	0.6	46500	126000	3200	1500

# ZARF Series | ZARN Series

Needle roller / axial cylindrical roller bearing.

ZARF. Centre washer suitable for flange mounting. The outside surface of the outer ring has a lubrication groove and three lubrication holes. The outside surface of both shaft locating washers are machined free from spiral marks so they are suitable for use as running surfaces for rotary shaft seals. Their lubrication holes are arranged differently. Threaded holes are provided for fixing the seal carrier assembly DRS



Product Table ZARF Dimensions in mm																			
Product Code	Weight kg	Dimensions												Basic Load Rating				Limiting Speed	
		d	D	H	H <sub>1</sub>	C	C <sub>1</sub>	D <sub>1</sub>	B	r min.	r <sub>1</sub> min.	d <sub>1</sub>	J	axial		radial		n <sub>g</sub> oil min <sup>-1</sup>	n <sub>g</sub> grease min <sub>-1</sub>
														dyn. C <sub>a</sub> N	stat. C <sub>0a</sub> N	dyn. C <sub>r</sub> N	stat. C <sub>0r</sub> N		
ZARF1560-TV	0.42	15	60	40	26	14	8	35	7.5	0.3	0.6	3.2	46	24.900	53.000	13.000	17.500	8.500	2.200
ZARF1762-TV	0.49	17	62	43	27.5	14	8	38	9	0.3	0.6	3.2	48	26.000	57.000	14.000	19.900	7.800	2.100
ZARF2068-TV	0.56	20	68	46	29	14	8	42	10	0.3	0.6	3.2	53	33.500	76.000	14.900	22.400	7.000	2.000
ZARF2575-TV	0.78	25	75	50	33	18	10	47	10	0.3	0.6	3.2	58	35.500	86.000	22.600	36.000	6.000	1.900
ZARF3080-TV	0.85	30	80	50	33	18	10	53	10	0.3	0.6	3.2	63	39.000	101.000	24.300	41.500	5.500	1.800
ZARF3590-TV	1.12	35	90	54	35	18	10	60	11	0.3	0.6	3.2	73	56.000	148.000	26.000	47.000	4.800	1.700
ZARF40100-TV	1.35	40	100	54	35	18	10	65	11	0.3	0.6	3.2	80	59.000	163.000	27.500	53.000	4.400	1.600
ZARF45105-TV	1.7	45	105	60	40	22.5	12.5	70	11.5	0.3	0.6	6	85	61.000	177.000	38.000	74.000	4.000	1.500
ZARF50115-TV	2.1	50	115	60	40	22.5	12.5	78	11.5	0.3	0.6	6	94	90.000	300.000	40.000	82.000	3.600	1.200
ZARF2080-TV	1.1	20	80	60	38	18	10	52	12.5	0.3	0.6	3.2	63	64.000	141.000	22.600	36.000	6.000	1.500
ZARF2590-TV	1.6	25	90	60	38	18	10	62	12.5	0.3	0.6	3.2	73	80.000	199.000	24.300	41.500	4.900	1.400
ZARF30105-TV	1.95	30	105	66	41	18	10	68	14	0.3	0.6	3.2	85	107.000	265.000	26.000	47.000	4.400	1.300
ZARF35110-TV	1.6	35	110	66	41	18	10	73	14	0.3	0.6	3.2	88	105.000	265.000	27.500	53.000	4.000	1.250
ZARF40115-TV	2.7	40	115	75	47.5	22.5	12.5	78	16	0.3	0.6	6	94	117.000	315.000	38.000	74.000	3.700	1.200

Product Table ZARN Dimensions in mm																			
Product Code	Weight kg	Dimensions												Basic Load Rating				Limiting Speed	
		d	D	H	H <sub>1</sub>	C	D <sub>1</sub>	B	r min.	r <sub>1</sub> min.	dyn. C <sub>a</sub> N	stat. C <sub>0a</sub> N	dyn. C <sub>r</sub> N	stat. C <sub>0r</sub> N	n <sub>g</sub> oil min <sup>-1</sup>	n <sub>g</sub> grease min <sub>-1</sub>			
ZARN1545-TV	0.34	15	45	40	28	16	35	7.5	0.3	0.6	24.900	53.000	13.000	17.500	8.500	2.200			
ZARN1747-TV	0.37	17	47	43	29.5	16	38	9	0.3	0.6	26.000	57.000	14.000	19.900	7.800	2.100			
ZARN2052-TV	0.41	20	52	46	31	16	42	10	0.3	0.6	33.500	76.000	14.900	22.400	7.000	2.000			
ZARN2557-TV	0.53	25	57	50	35	20	47	10	0.3	0.6	35.500	86.000	22.600	36.000	6.000	1.900			
ZARN3062-TV	0.6	30	62	50	35	20	52	10	0.3	0.6	39.000	101.000	24.300	41.500	5.500	1.800			
ZARN3570-TV	0.8	35	70	54	37	20	60	11	0.3	0.6	56.000	148.000	26.000	47.000	4.800	1.700			
ZARN4075-TV	0.9	40	75	54	37	20	65	11	0.3	0.6	59.000	163.000	27.500	53.000	4.400	1.600			
ZARN4580-TV	1.12	45	80	60	42.5	25	70	11.5	0.3	0.6	61.000	177.000	38.000	74.000	4.000	1.500			
ZARN5090-TV	1.43	50	90	60	42.5	25	78	11.5	0.3	0.6	90.000	300.000	40.000	82.000	3.600	1.200			
ZARN2062-TV	0.87	20	62	60	40	20	52	12.5	0.3	0.6	64.000	141.000	22.600	36.000	6.000	1.500			
ZARN2572-TV	1.17	25	72	60	40	20	62	12.5	0.3	0.6	80.000	199.000	24.300	41.500	4.900	1.400			
ZARN3080-TV	1.5	30	80	66	43	20	68	14	0.3	0.6	107.000	265.000	26.000	47.000	4.400	1.300			
ZARN3585-TV	1.65	35	85	66	43	20	73	14	0.3	0.6	105.000	265.000	27.500	53.000	4.000	1.250			
ZARN4090-TV	2.09	40	90	75	50	25	78	16	0.3	0.6	117.000	315.000	38.000	74.000	3.700	1.200			
ZARN45105-TV	3.02	45	105	85	53.5	25	90	17.5	0.3	0.6	154.000	405.000	40.000	82.000	3.300	1.150			
ZARN50110-TV	3.3	50	110	82	53.5	25	95	17.5	0.3	0.6	172.000	480.000	42.000	90.000	3.100	1.100			

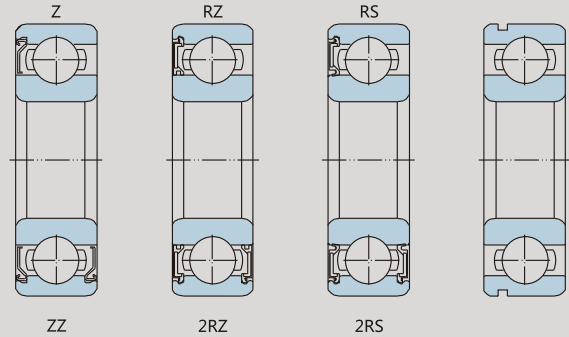
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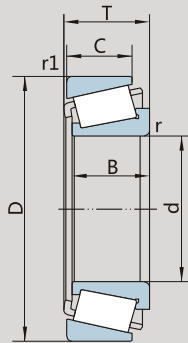
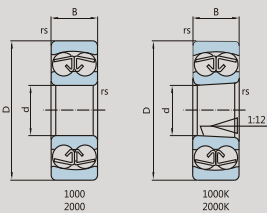
- 60xx series
- 62xx series
- 63xx series
  
- 617xx series
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EMQ versions  
P6, P5, P4  
From Z1 to Z4  
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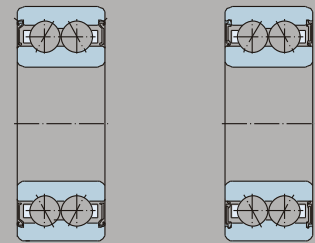
Steel balls  
Ceramic balls



## Tapered roller bearings Self-aligning ball bearings



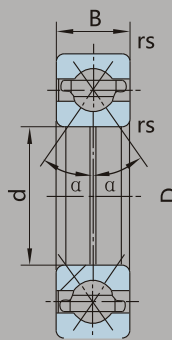
## Double row angular contact ball bearings



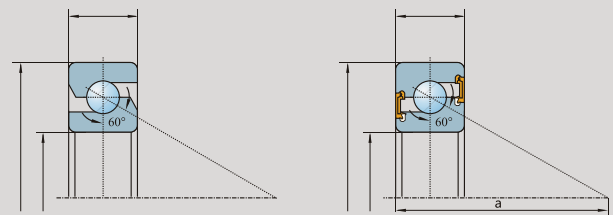
32 .. A  
52 ..  
ZZ

32 .. A  
52 ..  
2RS

## Four point contact ball bearings



## Axial contact ball bearings



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CSC Precision Bearing Catalogue  
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