FRB Bearings

Cross Roller Bearing

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Structure and Features

Crossed Roller Bearing because of its vertical arrangement of tapered roller with a 90°V through the separate separator in the deep groove rolling surface, compared to other kinds of bearings, has increased rigidity to a large extent. Therefore, a set of crossed roller bearing can support radial load, axial load and loading moment from all directions.

At the same time, cross roller bearing is a lightweight, compact type with thinnest possible inner and outer rings, especially for the thinnest, with high rigidity. It is optimal for application such as joints and swiveling units of industrial robots, swiveling tables of machine centers, rotary units of manipulators, precision tables, medical equipment, measuring instruments and IC manufacturing machines.

High Rotation Accuracy

The spacers fitting among cross arranged rollers prevents rollers from skewing and the rotation torque from increasing due to friction between rollers. The spacers keeps roller or locked rollers. Since the inner and outer rings are designed to be separable, the bearing clearance can be adjusted. In addition, a preload can be applied. These features enable accurate rotation.

Easy Handling

The inner and outer rings, which are separable, are secured to the body after being installed with rollers and spacers. Therefore, it is easy to handle the rings when installing the cross roller bearing.

Accuracy standards

The cross roller bearing is manufactured with the accuracy and the dimensional tolerance according to Table 1 to 7

Table1 Rotational accuracy of inner ring of Model CHRA

Unit: μm

Nominal dimensions of the bearing inner diameter(mm)		Radial runout
		Axial runout
Above	Below	Tolerance
40	65	13
65	80	15
80	100	15
100	120	20
120	140	25
140	180	25
180	200	30

Table 2 Rotational accuracy of inner ring of Model CHRB/CHRBC/XHRBH

Unit: μm

Nominal dimensions of the bearing inner diameter(mm)		Radial runout tolerance of inner ring					Axial runout tolerance of inner ring				
Above	Below	P0	P6	P5	P4	P2	P0	P6	P5	P4	P2
18	30	13	8	4	3	2.5	13	8	4	3	2.5
30	50	15	10	5	4	2.5	15	10	5	4	2.5
50	80	20	10	5	4	2.5	20	10	5	4	2.5
80	120	25	13	6	5	2.5	25	13	6	5	2.5
120	150	30	18	8	6	2.5	30	18	8	6	2.5
150	180	30	18	8	6	5	30	18	8	6	5
180	250	40	20	10	8	5	40	20	10	8	5
250	315	50	25	13	10		50	25	13	10	
315	400	60	30	15	12		60	30	15	12	
400	500	65	35	18	14		65	35	18	14	
500	630	70	40	20	16		70	40	20	16	
630	800	80	45	23	18		80	45	23	18	
800	1000	90	50	25	20		90	50	25	20	
1000	1250	100	55	30	25		100	55	30	25	

Table 3 Rotational accuracy of outer ring of Model CHRE

Unit: μm

Nominal dimensions of the bearing outer diameter(mm)		Radial runout tolerance of inner ring					Axial runout tolerance of outer ring				
Above	Below	P0	P6	P5	P4	P2	P0	P6	P5	P4	P2
30	50	20	10	7	5	2.5	20	10	7	5	2.5
50	80	25	13	8	5	4	25	13	8	5	4
80	120	35	18	10	6	5	35	18	10	6	5
120	150	40	20	11	7	5	40	20	11	7	5
150	180	45	23	13	8	5	45	23	13	8	5
180	250	50	25	15	10	7	50	25	15	10	7
250	315	60	30	18	11	7	60	30	18	11	7
315	400	70	35	20	13	8	70	35	20	13	8
400	500	80	40	23	15		80	40	23	15	
500	630	100	50	25	16		100	50	25	16	
630	800	120	60	30	20		120	60	30	20	
800	1000	120	75				120	75			
1000	1250	120					120				
1250	1600	120					120				

Table 4 Dimensions tolerance of the bearing inner diameter for Model CHRB/CHRBC/CHRBH/CHRE

Unit: μm

Nominal dimensions of the bearing inner diameter(mm)		Tolerance of dm(note 1)							
		P0		P6		P5		P4/P2	
Above	Below	Up	Down	Up	Down	Up	Down	Up	Down
18	30	0	-10	0	-8	0	-6	0	-5
30	50	0	-12	0	-10	0	-8	0	-6
50	80	0	-15	0	-12	0	-9	0	-7
80	120	0	-20	0	-15	0	-10	0	-8
120	150	0	-25	0	-18	0	-13	0	-10
150	180	0	-25	0	-18	0	-13	0	-10
180	250	0	-30	0	-22	0	-15	0	-12
250	315	0	-35	0	-25	0	-18		
315	400	0	-40	0	-30	0	-23		
400	500	0	-45	0	-35				
500	630	0	-50	0	-40				
630	800	0	-75						
800	1000	0	-100						
1000	1250	0	-125						

Note:1.dm represents the arithmetic average of the maximum and minimum diameters obtained in measuring the bearing inner diameter at two points.

2.For accuracy grades in bearing inner diameter with no values indicated in the table, the highest value among low accuracy grades applies.

Table 5 Dimensional tolerance of the bearing outer diameter for Model CHRB/CHRBC/CHRBH/CHRE

Unit: μm

Nominal dimensions of the bearing outer diameter (mm)		Tolerance of Dm (note 1)							
		P0		P6		P5		P4/P2	
Above	Below	Up	Down	Up	Down	Up	Down	Up	Down
30	50	0	-11	0	-9	0	-7	0	-6
50	80	0	-13	0	-11	0	-9	0	-7
80	120	0	-15	0	-13	0	-10	0	-8
120	150	0	-18	0	-15	0	-11	0	-9
150	180	0	-25	0	-18	0	-13	0	-10
180	250	0	-30	0	-20	0	-15	0	-11
250	315	0	-35	0	-25	0	-18	0	-13
315	400	0	-40	0	-28	0	-20	0	-15
400	500	0	-45	0	-33	0	-23		
500	630	0	-50	0	-38	0	-28		
630	800	0	-75	0	-45	0	-35		
800	1000	0	-100						
1000	1250	0	-125						
1250	1600	0	-160						

Note:1.Dm represents the arithmetic average of the maximum and minimum diameters obtained in measuring the bearing inner diameter at two points.

2.For accuracy grades in bearing inner diameter with no values indicated in the table, the highest value among low accuracy grades applies.

Table 6 Tolerance of the width of the inner and outer rings (Common to all grades)

Unit: μm

Nominal dimensions of the bearing inner diameter(mm)		Tolerance of B		Tolerance of B1	
		Applied to the inner ring of CHRB and outer ring of CHRE		Applied to the outer ring of CHRB and inner ring of CHRE	
Above	Below	Up	Down	Up	Down
18	30	0	-75	0	-100
30	50	0	-75	0	-100
50	80	0	-75	0	-100
80	120	0	-75	0	-100
120	150	0	100	0	-120
150	180	0	-100	0	-120
180	250	0	-100	0	-120
250	315	0	-120	0	-150
315	400	0	-150	0	-200
400	500	0	-150	0	-200
500	630	0	-150	0	-200
630	800	0	-150	0	-200
800	1000	0	-300	0	-400
1000	1250	0	-300	0	-400

Table 7 Rotational accuracy and dimensional tolerance of inner ring for Model CHRC

Unit: μm

Model	Rotational accuracy		Dimensional accuracy			
	Radial runout of inner ring	Axial runout of inner ring	Inner diameter	Outer diameter	Inner ring height	Total height
CHRC7010	0.010	0.010	+0.004/-0.015	-0.022	-0.01	±0.1
CHRC9013	0.010	0.010	+0.004/-0.018	-0.022	-0.01	±0.12
CHRC10013	0.010	0.010	+0.004/-0.018	-0.025	-0.01	±0.12
CHRC12016	0.010	0.010	+0.004/-0.018	-0.025	-0.01	±0.12
CHRC14018	0.015	0.010	+0.004/-0.021	-0.025	-0.01	±0.12
CHRC16020	0.015	0.010	+0.004/-0.021	-0.029	-0.025	±0.12
CHRC18022	0.015	0.010	+0.004/-0.021	-0.029	-0.025	±0.13
CHRC20024	0.015	0.010	+0.004/-0.024	-0.029	-0.025	±0.13
CHRC24028	0.020	0.010	+0.005/-0.024	-0.032	-0.025	±0.13
CHRC30038	0.020	0.010	+0.005/-0.027	-0.036	-0.05	±0.14
CHRC34038	0.025	0.010	+0.007/-0.029	-0.040	-0.05	±0.14
CHRC40046	0.030	0.010	+0.007/-0.029	-0.040	-0.05	±0.15
CHRC50056	0.040	0.010	+0.008/-0.032	-0.044	-0.05	±0.16

Radial clearance

Table 8 Radial clearance of model CHRA

Unit: μm

Patch circle diameter of the roller(dp)(mm)		CCO		CO	
Above	below	Min	Max	Min	Max
50	80	-8	0	0	15
80	120	-8	0	0	15
120	140	-8	0	0	15
140	160	-10	0	0	15
160	180	-10	0	0	20
180	200	-10	0	0	20
200	225	-10	0	0	20

Table 9 Radial clearance of model CHRB/CHRBX/CHRBH/CHRE

Unit: μm

Patch circle diameter of the roller(dp)(mm)		CCO		CO		C	
Above	Below	Min	Max	Min	Max	Min	Max
18	30	-8	0	0	15	15	35
30	50	-8	0	0	25	25	50
50	80	-10	0	0	30	30	60
80	120	-10	0	0	40	40	70
120	140	-10	0	0	40	40	80
140	160	-10	0	0	40	40	90
160	180	-10	0	0	50	50	100
180	200	-10	0	0	50	50	110
200	225	-10	0	0	60	60	120
225	250	-10	0	0	60	60	130
250	280	-15	0	0	80	80	150
280	315	-15	0	0	100	100	170
315	355	-15	0	0	110	110	190
355	400	-15	0	0	120	120	210
400	450	-20	0	0	130	130	230
450	500	-20	0	0	130	130	250
500	560	-20	0	0	150	150	280
560	630	-20	0	0	170	170	310
630	710	-20	0	0	190	190	350
710	800	-30	0	0	210	210	390
800	900	-30	0	0	230	230	430
900	1000	-30	0	0	260	260	480
1000	1120	-30	0	0	290	290	530
1120	1250	-30	0	0	320	320	580
1250	1400	-30	0	0	350	350	630

Fitting

For the fitting of cross roller bearing, we recommend using the combinations indicated in table 10-11

Table 10 Fitting of model CHRB/CHRBC/CHRBH/CHRE/CHRA

Radial clearance	Service condition		Shaft	Housing
CO	Inner ring rotational load	Normal load	g5	H7
CO	Inner ring rotational load	Large impact and moment	g5	H7
CO	Outer ring rotational load	Normal load	g5	Js7
C1	Outer ring rotational load	Large impact and moment	g5	Js7
C1	Inner ring rotational load	Normal load	j5	H7
C1	Inner ring rotational load	Large impact and moment	k5	Js7
C1	Outer ring rotational load	Normal load	g6	Js7
C1	Outer ring rotational load	Large impact and moment	h5	K7

Fitting of clearance CCO

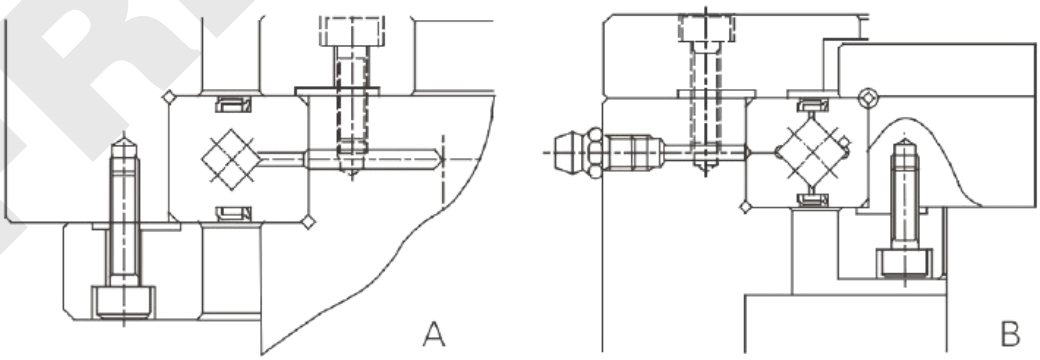
For the fitting clearance CCO, avoid interference because it will cause an excessive per-load. As for the fitting when you have select CCO for the joints or swiveling unit of a robot, the combination of g5 and H7 is recommended.

Designing the housing and the presser flange

Since the cross roller ring is a compact, thin device, special consideration must be given to the rigidity of the housing and the presser flange.

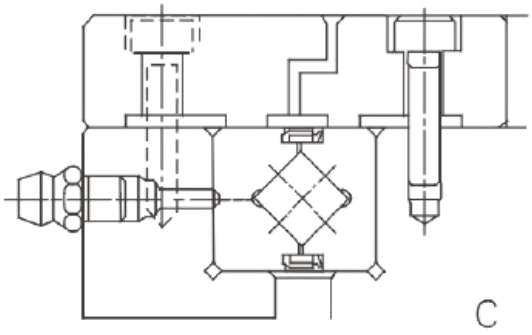
With types having a separable outer ring, insufficiency in the strength of the housing, the flange or the presser bolt will result in the inability to evenly hold the inner or outer ring, or the deformation of the bearing when a moment load is applied. Consequently, the contact area of the rollers will become uneven, causing the bearing's performance to significantly be reduced.

Fig 11 shows example of installing the cross roller bearing



Outer ring rotating in the swiveling unit
A heavy body part is mounted after the
Outer rings are secured

Inner ring rotating in the swiveling unit
(with seals attached)



Inner and outer rings secured in the same direction in the swiveling unit (with seals attached)

● Housing

When determining the thickness of the housing, be sure it must be at least 60% of the sectional height of the bearing as a guide.

Housing thickness T=D-d/2 *0.6 or greater (D: outer diameter of the outer ring, d: inner diameter of inner ring)

If tapped holes for removing the inner or outer ring (Fig 12) are provided, the ring can be removed without causing damage to the bearing. When removing the outer ring, do not press the inner ring, or vise versa. For the dimensions of the presser on the side. See the shoulder dimensions indicated in the corresponding dimensions table.

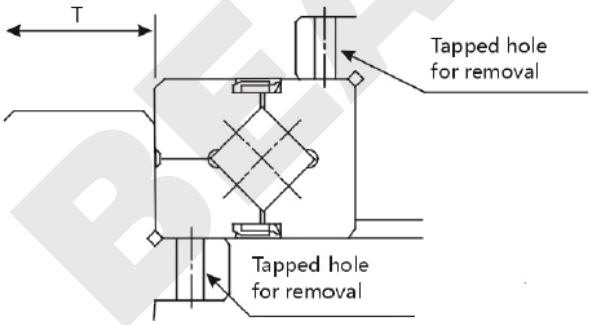
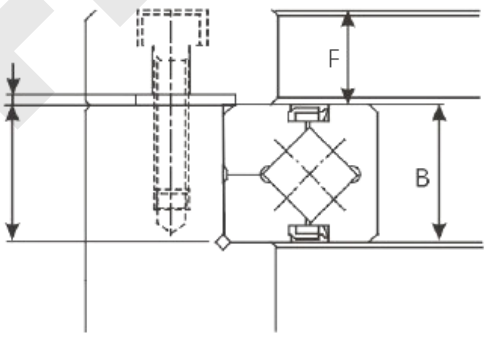


Fig 12

● Presser flange and presser bolt

When determining the thickness of the presser flanges (F) or the clearance of the flange section(S), refer to the dimensions indicated below as a guide. As for the number of the presser bolts, the greater the number of the bolts, the more stable the system becomes. As a guide, however, it is normally appropriate to use 13 bolts and equidistantly arrange them.



F=F=B*0.5~B*1.2

H=B(0.1~0)

S=0.5mm

Tables 13 Number of presser bolts and bolt size

Unit: μm

Outer diameter of the outer ring		Number of bolts	Bolt size (reference value)
Above	Below		
—	100	8 or more	M3~M5
100	200	12 or more	M4~m8
200	500	16 or more	M5~m12
500	—	24 or more	M12 or more

Even if the shaft and the housing are made of light alloy, it is recommendable to select a steel-based material for the pressure flanges.

When tightening the presser bolt, firmly secure them using a torque wrench or the like so that they will not loosen.

Table 14 shows tightening torque for the housing and presser flanges made of typical steel materials with medium hardness.

Table 14 Tighten torque of Bolt

Nominal size of screw	Tightening torque	Nominal size of screw	Tightening torque
M3	2	M10	70
M4	4	M12	120
M5	9	M16	200
M6	14	M20	390
M8	30	M22	530

● Installation and lubrication

We have filled in the good NO.2 Li Base Grease into the cross roller bearing, then it can be directly mounted after receiving the bearing. But compared with other conventional roller bearing, the internal space is smaller, so regular refill the grease is necessary.

The grease is entering into the oil holes which in the ring and connected with oil gap. The intervals are usually six months in one year. Please use the same kind of grease to fill into the bearing.

But not that, because of the resistance of grease, the torque moment will increase in a short time ate the beginning period. After the redundant grease, overflows from the seals, it will recover the normal torque value.

Matters need attention

The separable inner or outer rings could not be separated after fixing by the particular rivets or bolts or screws. They can be directly mounted on the bearing shaft. The improper mounting order of retainer will have greater influence on the rotary of bearing. Therefore, please don't dismantle the bearings optionally.

There would be deviation more or less in the connection of inner or outer ring. Please relax the fixed bolts before mounting on the bearing shaft. Remember use the plastic hammer to hit several times, then mount.

Please pay more attention to the dimension deviation of the assemblies. Then it will make the inner or outer ring firmly from the side pressure flanges.

Procedure for Assembly

When assembling the cross roller bearing, follow the steps below.

Inspecting the parts before assembling them

Thoroughly clean the hosing and other parts to be assembled, and check if there is no burr or flush.

Installing the cross roller bearing into the housing or onto the shaft

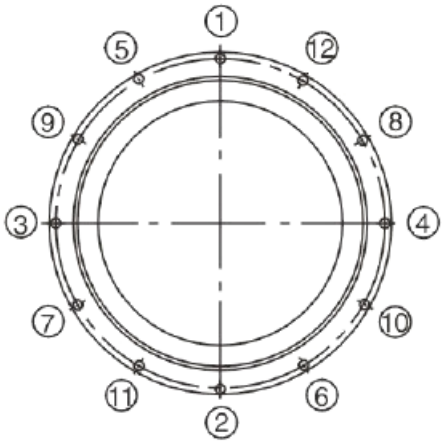
Since the cross roller bearing is a thin bearing, it tends to tilt as it is installed. Please hit it with a plastic hammer while keeping it horizontal, keep hammering it with much care unit you hear it fully contact the reference surface.

Attaching the presser flanges

- Place the presser flanges onto the cross roller bearing, rock the flange several times to match the bolt holes.

- Insert the presser bolts into the holes, manually turn the bolts and make sure they do not show skewing caused by misalignment of the bolts.

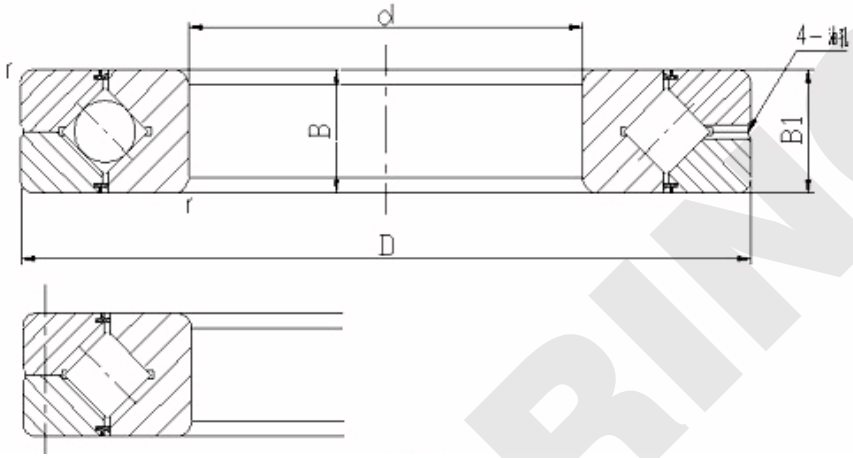
- There are three or four stages when mounting the hold-down bolts Please tighten the blots over and over according to the order of diagonal line. Especially to attention that, when we tighten presser bolt of two parts of inner or outer ring. Doing like this, it will revise the deviation of inner or outer rings.



Types and Features

CHRA Thin type(Separable Outer Ring for Inner Ring Rotation)

CHRA Series is a kind of small size and light weight crossed roller bearing which makes the wall thickness thin. It can sustain heavy load. Therefore, The shaft block and the side supported flange can be light weight. It can be easily used in the rotary location, such as the hand location of the robots. The outer ring of CHRA is separable and fixed by special rivets.



CHRA Series structure diagram

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding mode	
	ID	OD	W	Radial (KN)				
	d	D	B	C	Co		THK	IKO
CHRA 5008	50	66	8	5.1	7.19	0.08	RA5008	CRBS508
CHRA 6008	60	76	8	5.68	8.68	0.09	RA6008	CRBS608
CHRA 7008	70	86	8	5.98	9.8	0.1	RA7008	CRBS708
CHRA 8008	80	96	8	6.37	11.3	0.11	RA8008	CRBS808
CHRA 9008	90	106	8	6.67	12.4	0.12	RA9008	CRBS908
CHRA 10008	100	116	8	7.15	13.9	0.16	RA10008	CRBS1008
CHRA 11008	110	126	8	7.45	15	0.15	RA11008	CRBS1108
CHRA 12008	120	136	8	7.84	16.5	0.17	RA12008	CRBS1208
CHRA 13008	130	146	8	7.94	17.6	0.18	RA13008	CRBS1308
CHRA 14008	140	156	8	8.33	19.1	0.19	RA14008	CRBS1408
CHRA 15008	150	166	8	8.82	20.6	0.2	RA15008	CRBS1508
CHRA 16013	160	186	13	23.3	44.9	0.59	RA16013	CRBS16013
CHRA 17013	170	196	13	23.5	46.5	0.64	RA17013	CRBS17013
CHRA 18013	180	206	13	24.5	49.8	0.68	RA18013	CRBS18013
CHRA 19013	190	216	13	24.9	51.5	0.69	RA19013	CRBS19013
CHRA 20013	200	226	13	25.8	54.7	0.71	RA20013	CRBS20013

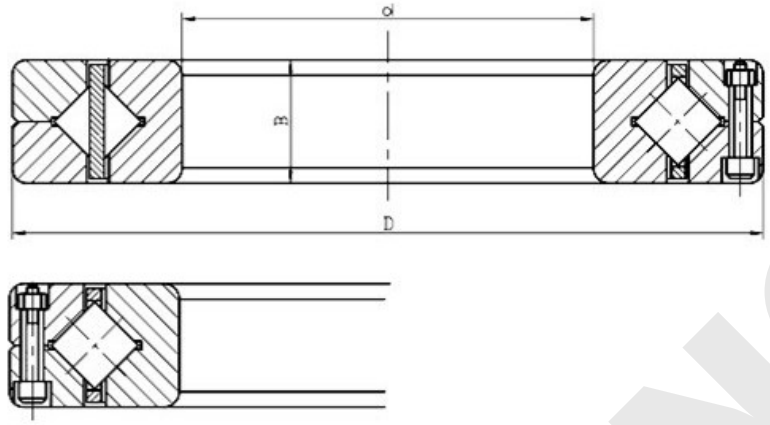
Note: 1.Nominal model with seals is CHRA ***UU.

2.In the high-precision, please use the inner ring rotation way.

3.If there is a need or questions, please contact us, we will reply to you as soon as possible. You can also send mail directly to sales@frb-bearings.com or call: 86-379-61110682.

CHRBC Standard Type(Separable Outer Ring for Inner Ring Rotation)

CHRBC series is inner ring and outer for 2 division for the overall design of the structure, inner ring through the bolt connection as a body, applicable to their requirements of high accuracy rotating place.



CHRBC Series structure diagram

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding model
	ID	OD	W	Radial (KN)			
	d	D	B	C	Co		THK
CHRBC 3010	30	55	10	7.35	8.36	0.12	CRB3010
CHRBC 4010	40	65	10	8.33	10.6	0.16	CRB4010
CHRBC 5013	50	80	13	16.7	20.9	0.27	CRB5013
CHRBC 6013	60	90	13	18	24.3	0.3	CRB6013
CHRBC 7013	70	100	13	19.4	27.7	0.35	CRB7013
CHRBC 8016	80	120	16	30.1	42.1	0.7	CRB8016
CHRBC 9016	90	130	16	31.4	45.3	0.75	CRB9016
CHRBC 10020	100	150	20	33.1	50.9	1.45	CRB10020
CHRBC 11020	110	160	20	34	54	1.56	CRB11020
CHRBC 12025	120	180	25	66.9	100	2.62	CRB12025
CHRBC 13025	130	190	25	69.5	107	2.82	CRB13025
CHRBC 14025	140	200	25	74.8	121	2.96	CRB14025
CHRBC 15025	150	210	25	76.8	128	3.16	CRB15025
CHRBC 15030		230	30	100	156	5.3	CRB15030
CHRBC 20025	200	260	25	84.2	157	4	CRB20025
CHRBC 20030		280	30	114	200	6.7	CRB20030
CHRBC 20035		295	35	151	252	9.6	CRB20035
CHRBC 25025	250	310	25	69.3	150	5	CRB25025
CHRBC 25030		330	30	126	244	8.1	CRB25030
CHRBC 25040		355	40	195	348	14.8	CRB25040
CHRBC 30025	300	360	25	76.3	178	5.9	CRB30025
CHRBC 30035		395	35	183	367	13.4	CRB30035
CHRBC 30040		405	40	212	409	17.2	CRB30040
CHRBC 40035	400	480	35	156	370	14.5	CRB40035

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding model
	ID	OD	W	Radial (KN)			
	d	D	B	C	Co		THK
CHRBC 40040	400	510	40	241	531	23.5	CRB40040
CHRBC 40070		580	70	470	811	72.4	CRB40070
CHRBC 50040	500	600	40	239	607	26	CRB50040
CHRBC 50050		625	50	267	653	41.7	CRB50050
CHRBC 50070		680	70	653	1330	86.1	CRB50070
CHRBC 60040	600	700	40	264	721	29	CRB60040
CHRBC 60070		780	70	700	1540	102	CRB60070
CHRBC 600120		870	120	1490	2800	274	CRB600120
CHRBC 70045	700	815	45	281	836	46	CRB70045
CHRBC 70070		880	70	766	1810	115	CRB70070
CHRBC 700150		1020	150	1980	3820	478	CRB700150
CHRBC 80070	800	950	70	468	1330	105	CRB80070
CHRBC 800100		1030	100	1140	2640	247	CRB800100

Note:

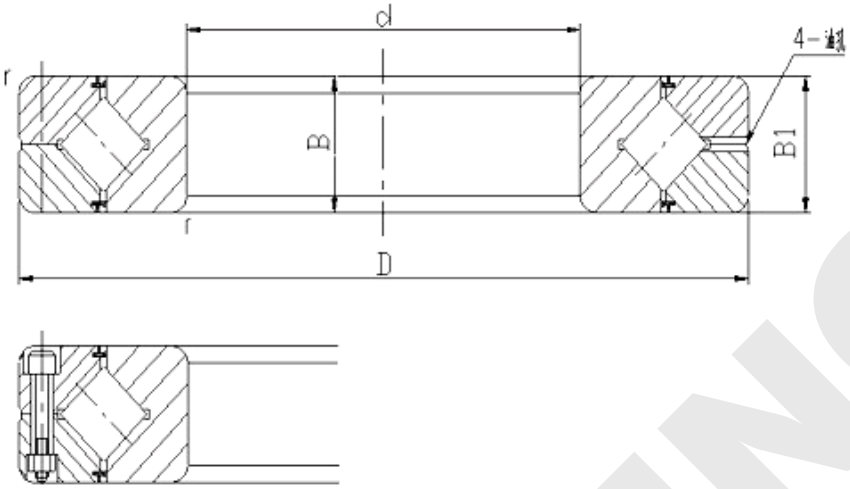
1.Nominal model with seals is CHRBC ***UU.

2. In the high-precision, please use the inner ring rotation way.

3.If there is a need or questions, please contact us, we will reply to you as soon as possible. You can also send mail directly to sales@frb-bearings.com or call: 86-379-61110682.

CHRB Standard Type(Separable Outer Ring for Inner Ring Rotation)

CHRB series is inner ring and outer for 2 division for the overall design of the structure, inner ring through the bolt connection as a body, applicable to their requirements of high accuracy rotating place.



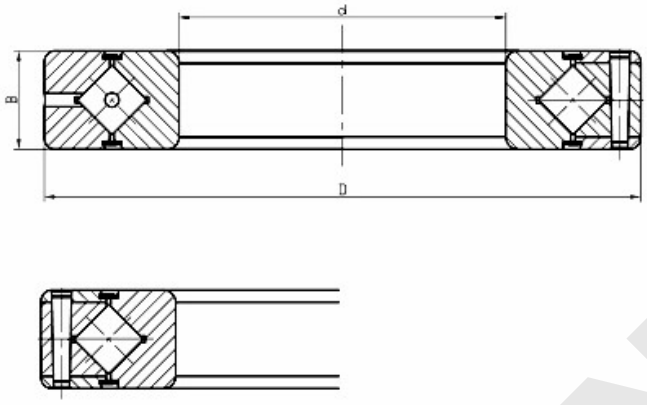
CHRB Series structure diagram

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding model		
	ID	OD	W	Radial (KN)					
	d	D	B	C	Co		THK	IKO	NSK
CHRB 2008	20	36	8	3.23	3.1	0.04	RB2008		
CHRB 2508	25	41	8	3.63	3.83	0.05	RB2508		NRXT2508
CHRB 3010	30	55	10	7.35	8.36	0.12	RB3010	CRB3010	
CHRB 3510	35	60	10	7.64	9.12	0.13	RB3510		
CHRB 4010	40	65	10	8.33	10.6	0.16	RB4010	CRB4010	NRXT4010
CHRB 4510	45	70	10	8.62	11.3	0.17	RB4510		
CHRB 5013	50	80	13	16.7	20.9	0.27	RB5013	CRB5013	NRXT5013
CHRB 6013	60	90	13	18	24.3	0.3	RB6013	CRB6013	NRXT6013
CHRB 7013	70	100	13	19.4	27.7	0.35	RB7013	CRB7013	NRXT7013
CHRB 8013	80	110	13	20.5	32	0.38			NRXT8013
CHRB 8016		120	16	30.1	42.1	0.7	RB8016	CRB8016	NRXT8016
CHRB 9016	90	130	16	31.4	45.3	0.75	RB9016	CRB9016	NRXT9016
CHRB 9020		140	20	32	49	1.27			NRXT9020
CHRB 10016	100	140	16	31.7	48.6	0.83	RB10016		
CHRB 10020		150	20	33.1	50.9	1.45	RB10020	CRB10020	NRXT10020
CHRB 11012	110	135	12	12.5	24.1	0.4	RB11012		
CHRB 11015		145	15	23.7	41.5	0.75	RB11015		
CHRB 11020		160	20	34	54	1.56	RB11020	CRB11020	NRXT11020
CHRB 12016	120	150	16	24.2	43.2	0.72	RB12016		
CHRB 12020		170	20	36	62	1.6			NRXT12020
CHRB 12025		180	25	66.9	100	2.62	RB12025	CRB12025	NRXT12025
CHRB 13015	130	160	15	25	46.7	0.72	RB13015		
CHRB 13025		190	25	69.5	107	2.82	RB13025	CRB13025	NRXT13025

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding model		
	ID	OD	W	Radial (KN)					
	d	D	B	C	Co		THK	IKO	NSK
CHRB 14016	140	175	16	25.9	50.1	1	RB14016		
CHRB 14025		200	25	74.8	121	2.96	RB14025	CRB14025	NRXT14025
CHRB 15013	150	180	13	27	53.5	0.68	RB15013		
CHRB 15025		210	25	76.8	128	3.16	RB15025	CRB15025	NRXT15025
CHRB 15030		230	30	100	156	5.3	RB15030	CRB15030	NRXT15030
CHRB 16025	160	220	25	81.7	135	3.14	RB16025		
CHRB 17020	170	220	20	29	62.1	2.21	RB17020		
CHRB 18025	180	240	25	84	143	3.44	RB18025		
CHRB 19025	190	240	25	41.7	82.9	2.99	RB19025		
CHRB 20025	200	260	25	84.2	157	4	RB20025	CRB20025	
CHRB 20030		280	30	114	200	6.7	RB20030	CRB20030	NRXT20030
CHRB 20035		295	35	151	252	9.6	RB20035	CRB20035	
CHRB 22025	220	280	25	92.3	171	4.1	RB22025		
CHRB 24025	240	300	25	68.3	145	4.5	RB24025		
CHRB 25025	250	310	25	69.3	150	5	RB25025	CRB25025	NRXT25025
CHRB 25030		330	30	126	244	8.1	RB25030	CRB25030	NRXT25030
CHRB 25040		355	40	195	348	14.8	RB25040	CRB25040	
CHRB 30025	300	360	25	76.3	178	5.9	RB30025	CRB30025	NRXT30025
CHRB 30035		395	35	183	367	13.4	RB30035	CRB30035	NRXT30035
CHRB 30040		405	40	212	409	17.2	RB30040	CRB30040	NRXT30040
CHRB 35020	350	400	20	54.1	143	3.9	RB35020		
CHRB 40035	400	480	35	156	370	14.5	RB40035	CRB40035	NRXT40035
CHRB 40040		510	40	241	531	23.5	RB40040	CRB40040	NRXT40040
CHRB 40070		580	70	470	811	72.4		CRB40070	
CHRB 45025	450	500	25	61.7	182	6.6	RB45025		
CHRB 50025	500	550	25	65.5	201	7.3	RB50025		
CHRB 50040		600	40	239	607	26	RB50040	CRB50040	NRXT50040
CHRB 50050		625	50	267	653	41.7	RB50050	CRB50050	NRXT50050
CHRB 50070		680	70	653	1330	86.1		CRB50070	
CHRB 60040	600	700	40	264	721	29	RB60040	CRB60040	NRXT60040
CHRB 60070		780	70	700	1540	102		CRB60070	
CHRB 600120		870	120	1490	2800	274		CRB600120	
CHRB 70045	700	815	45	281	836	46	RB70045	CRB70045	
CHRB 70070		880	70	766	1810	115		CRB70070	
CHRB 700150		1020	150	1980	3820	478		CRB700150	
CHRB 80070	800	950	70	468	1330	105	RB80070	CRB80070	
CHRB 800100		1030	100	1140	2640	247		CRB800100	
CHRB 90070	900	1050	70	494	1490	120	RB90070		
CHRB1000110	1000	1250	110	1220	3220	360	RB1000110		
CHRB1250110	1250	1500	110	1350	3970	440	RB1250110		

● CHRBH Standard Type(Separable Outer Ring for Inner Ring Rotation)

CHRBH series of inside and outside by the integral structure around it, rigid better, particularly suitable for installation size limited, high precision, and at the same time, high rigidity requirements of the occasion.



CHRBH Series structure diagram

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding model
	ID	OD	W	Radial (KN)			
	d	D	B	C	Co		THK
CHRBH 2008	20	36	8	2.91	2.43	0.04	CRBH208
CHRBH 2508	25	41	8	3.12	2.81	0.05	CRBH258
CHRBH 3010	30	55	10	7.35	8.36	0.12	CRBH3010
CHRBH 3510	35	60	10	7.9	9.13	0.13	CRBH3510
CHRBH 4010	40	65	10	8.33	10.6	0.15	CRBH4010
CHRBH 4510	45	70	10	8.86	11.3	0.16	CRBH4510
CHRBH 5013	50	80	13	16.7	20.9	0.27	CRBH5013
CHRBH 6013	60	90	13	18	24.3	0.3	CRBH6013
CHRBH 7013	70	100	13	19.4	27.7	0.35	CRBH7013
CHRBH 8016	80	120	16	30.1	42.1	0.7	CRBH8016
CHRBH 9016	90	130	16	31.4	45.3	0.75	CRBH9016
CHRBH 10020	100	150	20	33.1	50.9	1.45	CRBH10020
CHRBH 11020	110	160	20	34	54	1.56	CRBH11020
CHRBH 12025	120	180	25	66.9	100	2.62	CRBH12025
CHRBH 13025	130	190	25	69.5	107	2.82	CRBH13025
CHRBH 14025	140	200	25	74.8	121	2.96	CRBH14025
CHRBH 15025	150	210	25	76.8	128	3.16	CRBH15025
CHRBH 20025	200	260	25	84.2	157	4	CRBH20025
CHRBH 25025	250	310	25	69.3	150	5	CRBH25025

Note:

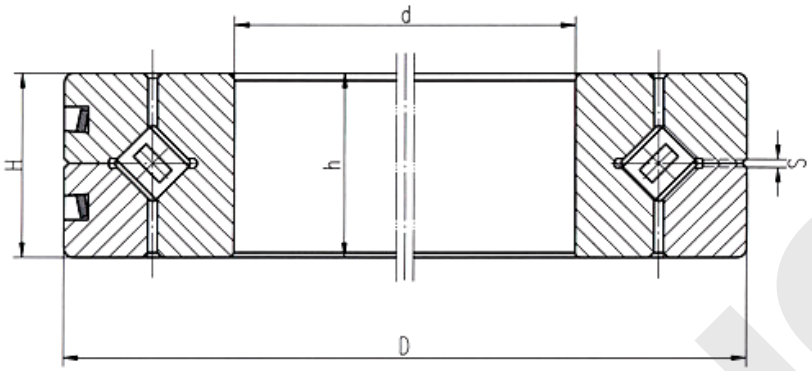
1.Nominal model with seals is CHRBH***UU.

2 In the high-precision, please use the inner ring rotation way.

3.If there is a need or questions, please contact us, we will reply to you as soon as possible. You can also send mail directly to sales@frb-bearings.com or call: 86-379-61110682.

CHRC Standard Type(Separable Outer Ring for Inner Ring Rotation)

CHRC series cylindrical cross roller bearing is similar to CHRB Series. The two separable outer rings are connected by cirlips.



CHRC Series structure diagram

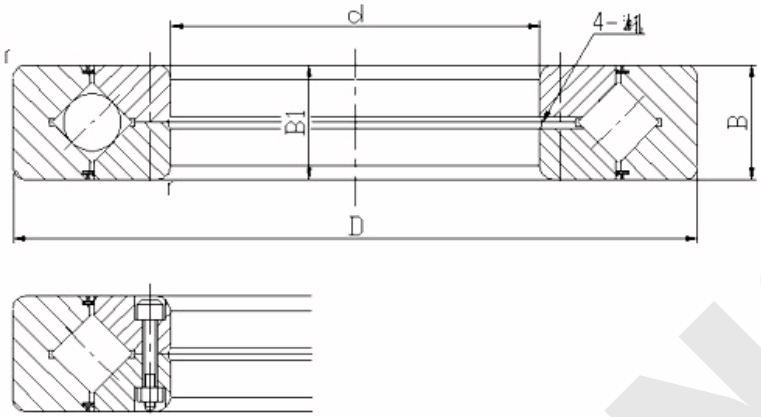
Nominal model	Dimensions (mm)				Basic rated load				Weight (KG)	Corresponding model
	d	D	H	h	Axial		Radial			
					C	Co	C	Co		INA
CHRC 7010	70	90	10	10	18	60	12	30	0.3	SX011814
CHRC 9013	90	115	13	13	26	96	17	47	0.4	SX011818
CHRC 10013	100	125	13	13	28	106	18	52	0.5	SX011820
CHRC 12016	120	150	16	16	41	153	26	75	0.8	SX011824
CHRC 14018	140	175	18	18	64	237	41	116	1.1	SX011828
CHRC 16020	160	200	20	20	69	272	44	133	1.7	SX011832
CHRC 18022	180	225	22	22	98	381	63	187	2.3	SX011836
CHRC 20024	200	250	24	24	106	425	68	208	3.1	SX011840
CHRC 24028	240	300	28	28	149	612	95	300	5.3	SX011848
CHRC 30038	300	380	38	38	245	1027	156	504	12	SX011860
CHRC 34038	340	420	38	38	265	1148	167	563	13.5	SX011868
CHRC 40046	400	500	46	46	385	1699	244	833	24	SX011880
CHRC 50056	500	620	56	56	560	2538	355	1244	44	SX0118/500

Note:

1. In the high-precision, please use the inner ring rotation way.
2.If there is a need or questions, please contact us, we will reply to you as soon as possible. You can also send mail directly to sales@frb-bearings.com or call: 86-379-61110682.

CHRE Standard Type(Separable Inner Ring for Outer Ring Rotation)

CHRE series is inner ring and outer for 2 division for the overall design of the structure, inner ring through the bolt connection as a body, applicable to their requirements of high accuracy rotating place.



CHRE Series structure diagram

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding model
	ID	OD	W	Radial (KN)			
	d	D	B	C	Co		IKO
CHRE 2008	20	36	8	3.23	3.1	0.04	RE 2008
CHRE 2508	25	41	8	3.63	3.83	0.05	RE 2508
CHRE 3010	30	55	10	7.35	8.36	0.12	RE 3010
CHRE 3510	35	60	10	7.64	9.12	0.13	RE 3510
CHRE 4010	40	65	10	8.33	10.6	0.16	RE 4010
CHRE 4510	45	70	10	8.62	11.3	0.17	RE 4510
CHRE 5013	50	80	13	16.7	20.9	0.27	RE 5013
CHRE 6013	60	90	13	18	24.3	0.3	RE 6013
CHRE 7013	70	100	13	19.4	27.7	0.35	RE 7013
CHRE 8016	80	120	16	30.1	42.1	0.7	RE 8016
CHRE 9016	90	130	16	31.4	45.3	0.75	RE 9016
CHRE 10016	100	140	16	31.7	48.6	0.83	RE 10016
CHRE 10020		150	20	33.1	50.9	1.45	RE 10020
CHRE 11012	110	135	12	12.5	24.1	0.4	RE 11012
CHRE 11015		145	15	23.7	41.5	0.75	RE 11015
CHRE 11020		160	20	34	54	1.56	RE 11020
CHRE 12016	120	150	16	24.2	43.2	0.72	RE 12016
CHRE 12025		180	25	66.9	100	2.62	RE 12025
CHRE 13015	130	160	15	25	46.7	0.72	RE 13015
CHRE 13025		190	25	69.5	107	2.82	RE 13025
CHRE 14016	140	175	16	25.9	50.1	1	RE 14016
CHRE 14025		200	25	74.8	121	2.96	RE 14025

Nominal model	Dimensions (mm)			Basic rated load		Weight (KG)	Corresponding model
	ID	OD	W	Radial (KN)			
	d	D	B	C	Co		IKO
CHRE 15013	150	180	13	27	53.5	0.68	RE 15013
CHRE 15025		210	25	76.8	128	3.16	RE 15025
CHRE 15030		230	30	100	156	5.3	RE 15030
CHRE 16025	160	220	25	81.7	135	3.14	RE 16025
CHRE 17020	170	220	20	29	62.1	2.21	RE 17020
CHRE 18025	180	240	25	84	143	3.44	RE 18025
CHRE 19025	190	240	25	41.7	82.9	2.99	RE 19025
CHRE 20025	200	260	25	84.2	157	4	RE 20025
CHRE 20030		280	30	114	200	6.7	RE 20030
CHRE 20035		295	35	151	252	9.6	RE 20035
CHRE 22025	220	280	25	92.3	171	4.1	RE 22025
CHRE 24025	240	300	25	68.3	145	4.5	RE 24025
CHRE 25025	250	310	25	69.3	150	5	RE 25025
CHRE 25030		330	30	126	244	8.1	RE 25030
CHRE 25040		355	40	195	348	14.8	RE 25040
CHRE 30025	300	360	25	76.3	178	5.9	RE 30025
CHRE 30035		395	35	183	367	13.4	RE 30035
CHRE 30040		405	40	212	409	17.2	RE 30040
CHRE 35020	350	400	20	54.1	143	3.9	RE 35020
CHRE 40035	400	480	35	156	370	14.5	RE 40035
CHRE 40040		510	40	241	531	23.5	RE 40040
CHRE 45025	450	500	25	61.7	182	6.6	RE 45025
CHRE 50025	500	550	25	65.5	201	7.3	RE 50025
CHRE 50040		600	40	239	607	26	RE 50040
CHRE 50050		625	50	267	653	41.7	RE 50050
CHRE 60040	600	700	40	264	721	29	RE 60040

Note:

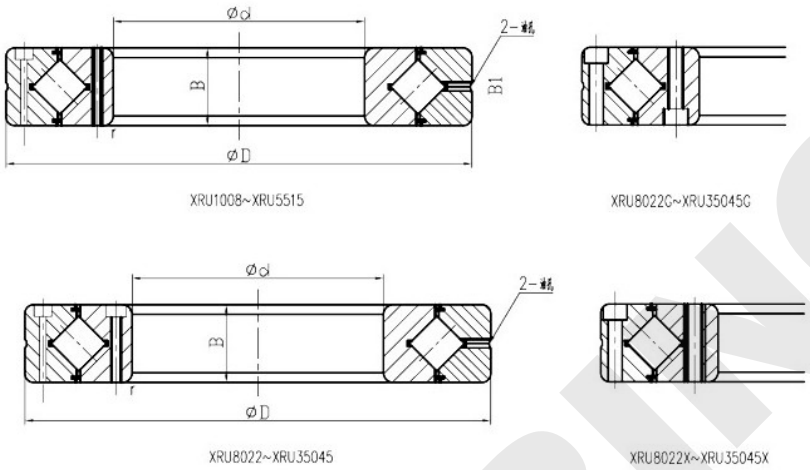
1.Nominal model with seals is CHRE***UU.

2. In the high-precision, please use the inner ring rotation way.

3.If there is a need or questions, please contact us, we will reply to you as soon as possible. You can also send mail directly to sales@frb-bearings.com or call: 86-379-61110682, or directly counseling online customer service.

CHRU Standard Type(mounting holes, high rigidity)

CHRU series high rigid cross roller bearings because all the whole structure internal and external rin g, with high rigidity, and installed with a hole, when installation, don't need fixed flange and housin g, greatly simplified installation procedures, and no influence on installation precision, it is of high p recision and large rotating torque, at the same time, can also according to the precision requiremen t free choice inner circle or outside of the rotating way with greater freedom of choice.



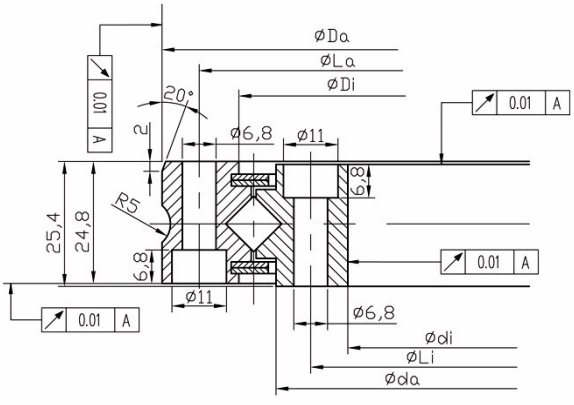
CHRU Series structure diagram

Nominal model	Dimensions			Dimensions of mounting holes (mm)		Basic rated load (KN)		Weight (KG)	Corresponding model	
	ID	OD	W	Outer ring	Inner ring					
	d	D	B	PCD1	PCD2	C	Co		THK	IKO
CHRU1008	10	52	8	42	16	2.91	2.43	0.12		CRBF108AT
CHRU2012	20	70	12	57	28	7.35	8.35	0.29	RU42	CRBF2012AT
CHRU2512	25	80	12	67	35	8.61	10.6	0.4		CRBF2512AT
CHRU3515	35	95	15	83	45	17.5	22.3	29.5	RU66	CRBF3515AT
CHRU5515	55	120	15	105	65	20.3	29.5	1	RU85	CRBF5515AT
CHRU8022	80	165	22	148	97	33.1	50.9	2.6	RU124	CRBF8022A
CHRU8022G									RU124G	CRBF8022AD
CHRU8022X									RU124X	CRBF8022AT
CHRU9025	90	210	25	187	112	49.1	76.8	4.9	RU148	
CHRU9025G									RU148G	
CHRU9025X									RU148X	
CHRU11528	115	240	28	217	139	80.3	135	6.8	RU178	
CHRU11528G									RU178G	
CHRU11528X									RU178X	
CHRU16035	160	295	35	270	184	104	173	11.4	RU228	
CHRU16035G									RU228G	
CHRU16035X									RU228X	
CHRU21040	210	380	40	350	240	156	281	21.3	RU297	
CHRU21040G									RU297G	
CHRU21040X									RU297X	
CHRU35045	350	540	45	505	385	222	473	35.4	RU445	
CHRU35045G									RU445G	
CHRU35045X									RU445X	

Note: 1.Nominal model with seals is CHRU***UU.

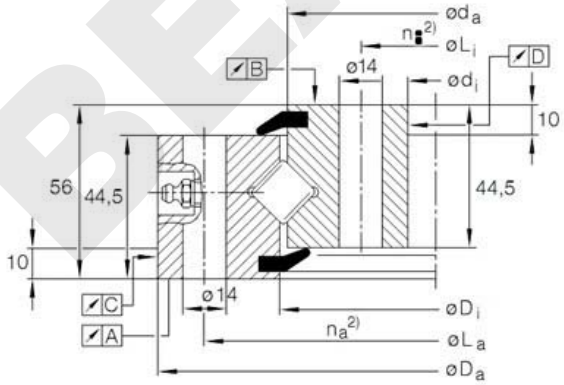
2.If there is a need or questions, please contact us, we will reply to you as soon as possible. You can also send mail directly to sales@frb-bearings.com or call: 86-379-61110682, or directly counseling online customer service.

CHRU & XSU 14 Standard Type



CHRSU Series structure diagram

Nominal model	Dimensions (mm)				Dimensions of mounting holes			Basic rated load				Weight (KG)	Corresponding model
								Axial(KN)		Radial (KN)			
	Da	di	Di	da	La	Li	nB1	C	Co	C	Co		INA
CHRSU168	205	130	174	159	190	145	12	65	243	41.4	119	3.3	XSU080168
CHRSU188	225	150	194	179	210	165	16	70	270	44.5	133	3.7	XSU080188
CHRSU218	255	180	224	209	240	195	20	76	315	48	154	4.3	XSU080218
CHRSU258	295	220	264	249	280	235	24	83	370	53	182	5.1	XSU080258
CHRSU318	355	280	324	309	340	295	28	94	465	60	228	6.3	XSU080318
CHRSU398	435	360	404	389	420	375	36	106	580	67	285	7.8	XSU080398



XSU Series structure diagram

Corresponding model	Dimensions (mm)				Dimensions of mounting holes (mm)				Basic rated load				Weight (KG)
									Axial(KN)		Radial (KN)		
INA	Da	di	Di	da	La	n_a 2)	L_i	n_i 2)	C	Co	C	Co	
XSU 140414	484	344	415	413	460	24	368	24	229	520	146	250	28
XSU 140544	614	474	545	543	590	32	498	32	270	680	170	330	38
XSU 140644	714	574	645	643	690	36	598	32	270	680	185	395	44
XSU 140744	814	674	745	743	790	40	698	40	315	930	200	455	52
XSU 140844	914	774	845	843	890	40	798	40	340	1050	215	510	60
XSU 140944	1014	874	845	843	990	44	898	44	360	1170	227	580	67
XSU 141094	1164	1024	1095	1093	1140	48	1048	48	390	1360	246	670	77