



**IKO**



**Crossed Roller Bearings**



**CRBT  
CRBS**

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CAT-57166



# Super Slim & Slim Type Crossed Roller Bearing

Super Slim & Slim Type Crossed Roller Bearing are extremely compact bearings having cylindrical rollers disposed perpendicularly between inner and outer rings. A single bearing can take complicated loads such as radial, axial and moment loads.

By using cylindrical rollers whose elastic displacement due to load is smaller than steel balls, this type of crossed roller bearing can make the device compact and highly rigid comparing to ball bearings or taper roller bearings and the combination of two ball bearings.

These bearings are widely used in the rotating parts of industrial robots, optical apparatus and medical equipments, etc., which contribute compactness and lightness.

## Applications of Super Slim & Slim Type Crossed Roller Bearing



## Features of Super Slim & Slim Type Crossed Roller Bearing

**The world's slimmest roller types**  
**Super low sectional height of 5.5 mm**

The sectional height of this type is reduced to 69% of that of CRBS which has been the slimmest. (Shaft diameter : 50 mm) Its width is 5 mm and the sectional area is made compact (43% of that of the conventional types).

**Great weight saving down to 38% of the conventional types**

As the result of pursue of absolute weight saving, the weight of this type is greatly reduced down to 0.38 of the conventional slim type CRBS. (Shaft diameter : 50 mm)

**Realization of compact device designing and space saving**

Perpendicular arrangement of cylindrical rollers enables a single bearing to take complicated loads such as radial, axial and moment loads. Since this type of bearings can be used in a cantilever structure, they can increase the degree of freedom in designing and contribute to device downsizing and space saving.

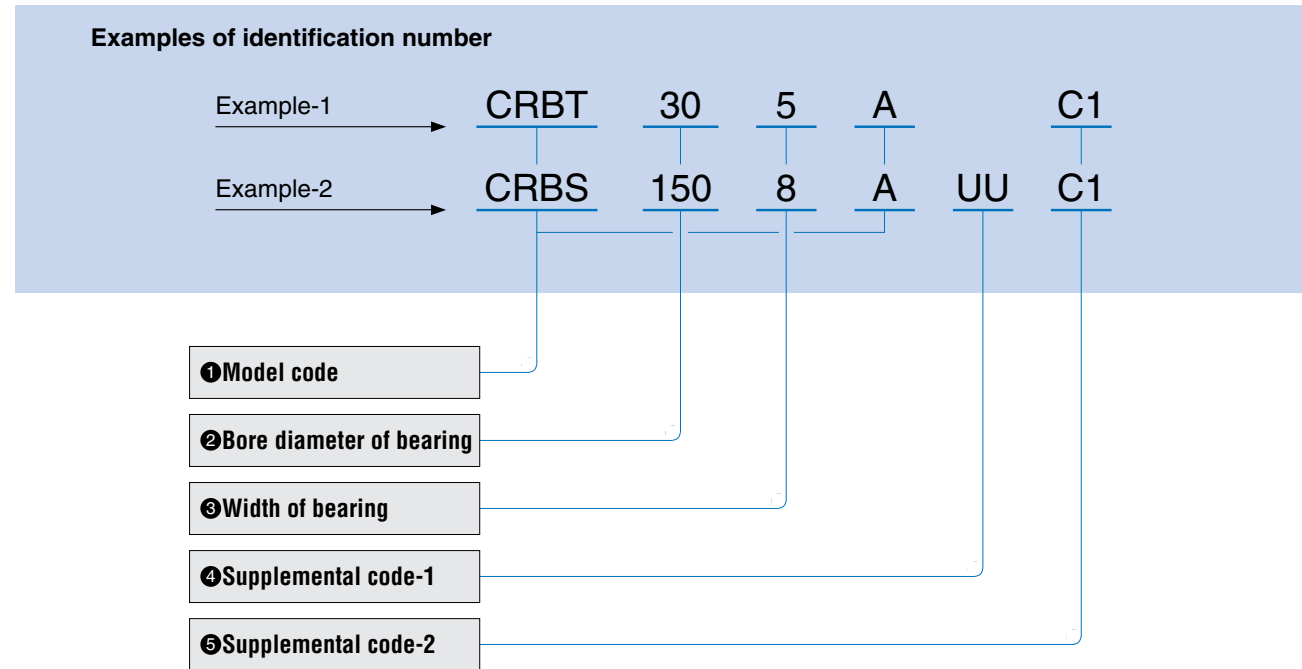
Nominal bore diameter	20 mm		30 mm		40 mm		50 mm			
Sectional view										
Series	<b>NEW</b> CRBT205A	CRBH208A	<b>NEW</b> CRBT305A	CRBH3010A	<b>NEW</b> CRBT405A	CRBH4010A	<b>NEW</b> CRBT505A	CRBS508	CRBH5013A	
Item										
Outside diameter	mm	31	36	41	55	51	65	61	66	80
Width	mm	5	8	5	10	5	10	5	8	13
Sectional height	mm	5.5	8	5.5	12.5	5.5	12.5	5.5	8	15
C	N	1400	2910	1770	7600	2000	8610	2280	4900	17300
C <sub>0</sub>	N	1290	2430	1970	8370	2520	10600	3200	6170	20900
Weight	g	14.8	40	20.7	120	26.5	150	32.3	84	290
	Ratio to CRBH	0.37	1.00	0.17	1.00	0.18	1.00	0.11	0.29	1.00
	Ratio to CRBS	—	—	—	—	—	—	0.38	1.00	3.45

## Variations

Type	Guidance of cylindrical roller	Sealing structure	Model code	Shaft diameter
<b>Super Slim Type Crossed Roller Bearing</b>	with Separator	Open type	CRBT...A	20~ 50 mm
<b>Slim Type Crossed Roller Bearing</b>	with Separator	Sealed type	CRBS...AUU	50~200 mm
	with Cage	Open type	CRBS	50~200 mm
	Full Complement	Sealed type	CRBS...VUU	50~200 mm
		Open type	CRBS...V	50~200 mm

# Identification Number

The identification number of IKO Super Slim and Slim Type Crossed Roller Bearings consists of a model code, dimensions and supplemental codes as shown below.



<b>1 Model code</b>	CRBT...A Super Slim Type Crossed Roller Bearing (With separator) CRBS Slim Type Crossed Roller Bearing (With cage) CRBS...A Slim Type Crossed Roller Bearing (With separator) CRBS...V Slim Type Crossed Roller Bearing (Full complement)
<b>2 Bore diameter of bearing</b>	Denotes the bore diameter of bearing (unit: mm)
<b>3 Width of bearing</b>	Denotes the width of bearing (unit: mm)
<b>4 Supplemental code-1 (Seal specification)</b>	No symbol : Open type UU : Both side sealed type U : One side sealed type For applicable codes, see Table 1.
<b>5 Supplemental code-2 (Internal Clearance)</b>	T1 : T1 clearance C1 : C1 clearance No symbol: Normal clearance For applicable codes, see Table 2.

**Table 1 Seal specification**

Mode code	No symbol	UU	U
CRBT...A	○	—	—
CRBS	○	—	—
CRBS...A	—	○	○
CRBS...V	○	○	○

**Table 2 Clearance specification**

Model code	T1	C1	No symbol
CRBT...A	—	○	—
CRBS	○	○	○
CRBS...A	○	○	○
CRBS...V	○	○	○

# Load Rating and Life

## Basic dynamic load rating $C$

The basic dynamic load rating is defined as a constant radial load both in direction and magnitude under which a group of identical bearings are individually operated and 90% of the bearings in the group can rotate 1,000,000 revolutions free from material damage due to rolling contact fatigue.

## Life

The basic rating life of IKO Super Slim and Slim Type Crossed Roller Bearings is obtained from the following formula.

$$L_{10} = \left(\frac{C}{P_r}\right)^{10/3} \dots \dots \dots (1)$$

where,  $L_{10}$  : Basic rating life,  $10^6$ rev.  
 $C$  : Basic dynamic load rating, N  
 $P_r$  : Dynamic equivalent radial load, N

If the number of revolutions per minute is known, the rating life in hours can be obtained from the following formula.

$$L_h = \frac{10^6 L_{10}}{60n} \dots \dots \dots (2)$$

where,  $L_h$  : Basic rating life in hours, h  
 $n$  : Number of revolutions per minute, rpm

## Life in oscillating motion

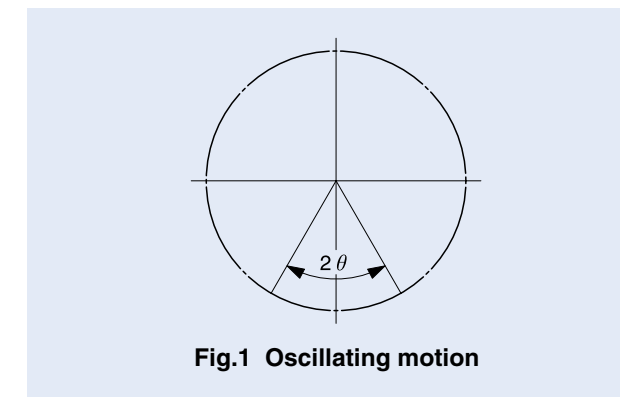
When a bearing is used in oscillating motion, the life can be obtained from the following formula.

$$L_{0c} = \frac{90}{\theta} \left(\frac{C}{P_r}\right)^{10/3} \dots \dots \dots (3)$$

where,  $L_{0c}$  : Basic rating life in oscillating motion  $10^6$ cycles  
 $2\theta$  : Oscillating angle, degrees (Refer to Fig.1.)  
 $P_r$  : Dynamic equivalent radial load, N

If the number of oscillations per minute  $n_1$ cpm is given, the rating life in hours can be obtained from Formula (2) by substituting  $n_1$  for  $n$ .

When the oscillating angle  $2\theta$  is small, oil film may not be formed between the rolling elements and the raceways and fretting corrosion may occur. In this case, please consult IKO.



## Limitations of life formulae

These life calculation formulae are applicable when the mounting and lubrication of bearing are normal and the bearing is used without intrusion of foreign matters under a normal operating condition and not under an extreme severe condition.

If these conditions are not satisfied, the actual life may decrease rapidly.

For example, it is necessary to consider the additional factors, such as deformation of bearing by miss-mounting, large deformation of housing/shaft, large preload and use of unsuitable grease.

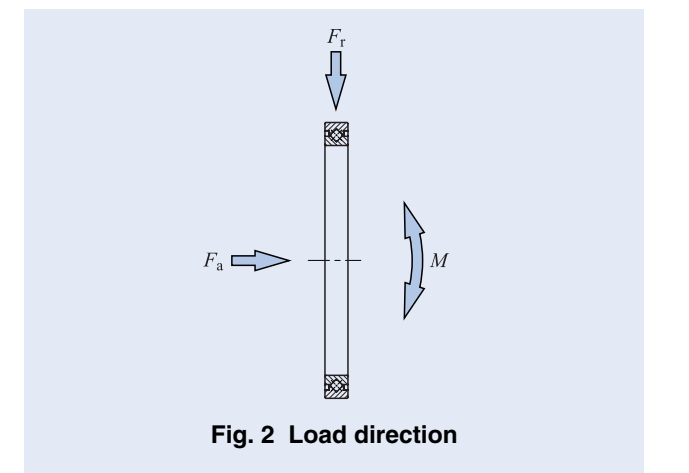
Furthermore, when the dynamic equivalent radial load exceeds 1/2 of the basic dynamic load rating, the life calculation formulae may not be used.

## Dynamic equivalent radial load

The dynamic equivalent radial load of IKO Super Slim and Slim Type Crossed Roller Bearings can be obtained from the following formula.

$$P_r = X \left( F_r + \frac{2M}{D_{pw}} \right) + Y F_a \dots \dots \dots (4)$$

where,  $P_r$  : Dynamic equivalent radial load, kgf  
 $F_r$  : Radial load, N  
 $F_a$  : Axial load, N  
 $M$  : Moment, N·mm  
 $D_{pw}$  : Pitch circle diameter, mm  $\left( D_{pw} = \frac{d+D}{2} \right)$   
 $X$  : Radial load factor (Refer to Table 3.)  
 $Y$  : Axial load factor (Refer to Table 3.)



**Table 3 Radial load factor and axial load factor**

Conditions	X	Y
$\frac{F_a}{F_r + 2M/D_{pw}} \leq 1.5$	1	0.45
$\frac{F_a}{F_r + 2M/D_{pw}} > 1.5$	0.67	0.67

1N=0.102kgf=0.2248lbs.  
 1mm=0.03937inch

## Basic static load rating $C_0$

Basic static load rating is defined as a static load which gives a prescribed contact stress at the center of contact area between rolling elements and raceways on which the maximum load is applied.

## Static safety factor

The static safety factor  $f_s$ , of IKO Super Slim and Slim Type Crossed Roller Bearings can be obtained from the following formula, and general values of this factor are shown in Table 4.

$$f_s = \frac{C_0}{P_{0r}} \quad \dots \dots \dots (5)$$

where,  $f_s$  : Static safety factor

$C_0$  : Basic static load rating, N

$P_{0r}$  : Static equivalent radial load (maximum load), N

**Table 4 Static safety factors**

Operating conditions	$f_s$
When high rotating accuracy is required.	$\geq 3$
Normal operation	$\geq 1.5$
When smooth rotation is not important in normal operation Rotation without vibration When the bearing is almost not rotating	$\geq 1$

## Accuracy

Dimensional accuracy and rotational accuracy of IKO Super Slim and Slim Type Crossed Roller Bearings are

## Static equivalent radial load

The static equivalent radial load of IKO Super Slim and Slim Type Crossed Roller Bearings can be obtained from the following formula.

$$P_{0r} = F_r + \frac{2M}{D_{pw}} + 0.44F_a \quad \dots \dots \dots (6)$$

where,  $P_{0r}$  : Static equivalent radial load, N

$F_r$  : Radial load, N

$F_a$  : Axial load, N

$M$  : Moment, N·mm

$D_{pw}$  : Pitch circle diameter, mm ( $D_{pw} \approx \frac{d+D}{2}$ )

## Load factor

Actual loads applied to the bearing sometimes exceed the load value theoretically calculated due to vibration and shocks caused by machine operation. The life is calculated from the following formula while considering the load factor shown in Table 5.

$$F = f_w F_c \quad \dots \dots \dots (7)$$

where,  $F$  : Load for life calculation, N

$f_w$  : Load factor (See Table 5)

$F_c$  : Theoretical calculated load, N

**Table 5 Load factor**

Condition	$f_w$
Smooth operation free from vibration and/or shocks	1 ~ 1.2
Normal operation	1.2 ~ 1.5
Operation with shock loads	1.5 ~ 3

shown in Tables 6.1 and 6.2. Bearings with special accuracy are also optionally available. Please consult IKO.

**Table 6.1 Accuracy of inner ring and accuracy of outer ring width Super Slim Type Crossed Roller Bearings**

unit:  $\mu\text{m}$

$d$ Nominal bore diameter mm	$\Delta d_{mp}$ Single plane mean bore dia. deviation		$\Delta D_{mp}$ Single plane mean outside dia. deviation		$\Delta B_s$ and $\Delta C_s$ Deviation of a single inner ring width and outer ring width		$K_{ia}$ and $S_{ia}$ Radial and axial run-out of assembled bearing inner ring	$K_{ea}$ and $S_{ea}$ Radial and axial run-out of assembled bearing outer ring
	High	Low	High	Low	High	Low		
20	0	-10	0	-11	0	-75	13	20
30	0	-10	0	-11	0	-75	13	20
40	0	-12	0	-13	0	-75	15	25
50	0	-12	0	-13	0	-75	15	25

**Table 6.2 Accuracy of inner ring and accuracy of outer ring width Slim Type Crossed Roller Bearings** unit:  $\mu\text{m}$

$d$ Nominal bore diameter mm	$\Delta d_{mp}$ Single plane mean bore dia. deviation		$\Delta D_{mp}$ Single plane mean outside dia. deviation		$\Delta B_s$ and $\Delta C_s$ Deviation of a single inner ring width and outer ring width		$K_{ia}$ and $S_{ia}$ Radial and axial run-out of assembled bearing inner ring	$K_{ea}$ and $S_{ea}$ Radial and axial run-out of assembled bearing outer ring
	High	Low	High	Low	High	Low		
50	0	-15	0	-13	0	-127	13	13
60	0	-15	0	-13	0	-127	13	13
70	0	-15	0	-15	0	-127	15	15
80	0	-20	0	-15	0	-127	15	15
90	0	-20	0	-15	0	-127	15	15
100	0	-20	0	-15	0	-127	15	15
110	0	-20	0	-20	0	-127	20	20
120	0	-25	0	-20	0	-127	20	20
130	0	-25	0	-25	0	-127	25	25
140	0	-25	0	-25	0	-127	25	25
150	0	-25	0	-25	0	-127	25	25
160	0	-25	0	-25	0	-127	25	25
170	0	-25	0	-30	0	-127	25	25
180	0	-30	0	-30	0	-127	30	30
190	0	-30	0	-30	0	-127	30	30
200	0	-30	0	-30	0	-127	30	30

## Clearance

The radial internal clearances of IKO Super Slim and Slim Type Crossed Roller Bearings are shown in Table 7.1 and 7.2.

**Table 7.1 Radial internal clearances for Super Slim Type Crossed Roller Bearing** unit:  $\mu\text{m}$

$d$ Nominal bore diameter of bearing mm	Radial internal clearance					
	T1		C1		Standard	
	Min.	Max.	Min.	Max.	Min.	Max.
20	0	15				
30	0	15				
40	0	15				
50	0	15				

**Table 7.2 Radial internal clearances for Slim Type Crossed Roller Bearing** unit:  $\mu\text{m}$

$d$ Nominal bore diameter of bearing mm	Radial internal clearance					
	T1		C1		Standard	
	Min.	Max.	Min.	Max.	Min.	Max.
50	-8	0	0	15	30	56
60	-8	0	0	15	30	56
70	-8	0	0	15	30	56
80	-8	0	0	15	41	66
90	-8	0	0	15	41	66
100	-8	0	0	15	41	66
110	-8	0	0	15	41	66
120	-8	0	0	15	51	76
130	-8	0	0	15	51	76
140	-8	0	0	15	51	76
150	-8	0	0	15	51	76
160	-10	0	0	20	51	76
170	-10	0	0	20	51	76
180	-10	0	0	20	61	86
190	-10	0	0	20	61	86
200	-10	0	0	20	61	86



## Fit

In IKO Super Slim Crossed Roller Bearing, fit based on the actual measured dimensions of the bearings is recommended. And those of Slim Type Crossed Roller Bearings with normal clearance are shown in Table 8. For the interference fit, the radial internal clearance after the fit is

decreased by approximately 70% to 90% of the interference amount. To avoid excessive preload due to fit, it is recommended to use a slight interference fit adjusted to the actual measured dimensions for both T1 and C1 clearances.

**Table 8 Recommended fits for Slim Type Crossed Roller Bearings with C1 clearance (Dimensional tolerances of shaft and housing bore)**

unit:  $\mu\text{m}$

Nominal bore diameter mm	Inner ring rotational load				Outer ring rotational load			
	Shaft		Housing bore		Shaft		Housing bore	
	High	Low	High	Low	High	Low	High	Low
50	+15	0	+13	0	-15	-30	-13	-25
60	+15	0	+13	0	-15	-30	-13	-25
70	+15	0	+15	0	-15	-30	-15	-30
80	+20	0	+15	0	-20	-40	-15	-30
90	+20	0	+15	0	-20	-40	-15	-30
100	+20	0	+15	0	-20	-40	-15	-30
110	+20	0	+20	0	-20	-40	-20	-40
120	+25	0	+20	0	-25	-50	-20	-40
130	+25	0	+25	0	-25	-50	-25	-50
140	+25	0	+25	0	-25	-50	-25	-50
150	+25	0	+25	0	-25	-50	-25	-50
160	+25	0	+25	0	-25	-50	-25	-50
170	+25	0	+30	0	-25	-50	-30	-60
180	+30	0	+30	0	-30	-60	-30	-60
190	+30	0	+30	0	-30	-60	-30	-60
200	+30	0	+30	0	-30	-60	-30	-60

Remark: When complex loads or shock loads are applied or when high rotational accuracy and rigidity of the bearing are required, it is recommended to use a slight interference fit adjusted to the actual measured dimensions for both inner and outer rings.

## Allowable rotational speed

Allowable rotational speeds of IKO Super Slim and Slim Type Crossed Roller Bearings are affected by mounting and operating conditions. The values in general operation are shown in Table 9.

**Table 9  $d_m n$  values<sup>(1)</sup> of bearing**

Type	Lubricant	Grease	Oil
		Caged or with separator	Open type: 75 000 Sealed type: 60 000
Full complement	Open type	50 000	75 000
	Sealed type	40 000	—

Note<sup>(1)</sup>:  $d_m n$  value =  $d_m \times n$

where,  $d_m$ : Mean values of bearing bore and outside diameters, mm  
 $n$ : Number of rotations per minutes, rpm

## Rotational torque

Rotational torque of IKO Super Slim and Slim Type Crossed Roller Bearings are lower than that of plain bearings and the difference between the static torque and the dynamic (kinetic) torque is small. Therefore, these bearings minimize power consumption and operating temperature rise of machinery and increase the overall efficiency of machines.

The rotational torque is affected by many factors, but the following formula can be used expediently.

$$T = \mu P_{0r} \frac{D_{pw}}{2}$$

where,  $T$ : Rotational torque, N · mm  
 $\mu$ : Friction coefficient (Approx. 0.010)  
 $P_{0r}$ : Static equivalent radial load, N  
 $D_{pw}$ : Pitch circle diameter, mm ( $D_{pw} \approx \frac{d+D}{2}$ )

When the radial clearance after mounting is a large minus value, consult IKO.

## Lubrication

These bearings are generally lubricated with grease. In re-lubrication, grease is supplied through the gap between the outer ring and inner ring.

For grease prepacked bearings, ALVANIA EP grease 2 (by Shell) is prepacked. (Refer Table 10) For bearings without prepacked grease, supply grease or oil for use. Operating without grease or oil will increase the wear of the rolling contact surfaces and cause a short bearing life.

When using special grease, carefully examine the grease properties and contents such as base oil viscosity and extreme pressure additives. In this case, please contact IKO.

**Table 10 Grease prepacked bearings**

○: Prepacked ×: Not prepacked

Model code	Specifications		
	Open type (No symbol)	Sealed type	One side sealed type
CRBT ...A	○	—	—
CRBS	×	—	—
CRBS ...A	—	○	×
CRBS ...V	×	○	×

## Oil hole

For IKO Super Slim and Slim Type Crossed Roller Bearings, oil hole and oil groove are not provided. However, for Slim Type Crossed Roller Bearings, oil holes can be made upon request. When oil holes are required on the outer ring, attach “-nOH” before the clearance symbol in the identification number. For an oil hole on the inner ring, attach “/nOH”.

**Table 11 Oil holes**

Model code	Oil hole code	
	/nOH (Inner ring)	-nOH (Outer ring)
CRBT ...A	—	—
CRBS	○	○
CRBS ...A	○	○
CRBS ...V	○	○

Remark: “n” denotes the number of oil holes not exceeding 4. For one oil hole, number is not indicated. When preparing multiple oil holes, please consult IKO.

**Example 1: In case of 4 oil holes on the inner ring**

CRBS 1008 / 4OH C1  
 ————  
 4 oil holes  
 For inner ring

**Example 2: In case of 1 oil holes on the outer ring**

CRBS 1008 — OH C1  
 ————  
 1 oil hole  
 For outer ring

## Operating temperature range

The operating temperature range for IKO Super Slim and Slim Type Crossed Roller Bearings is  $-20^{\circ}\text{C}$  to  $+110^{\circ}\text{C}$ . However, the maximum allowable temperature should not be exceeded  $+100^{\circ}\text{C}$  when they are in continuous operation.

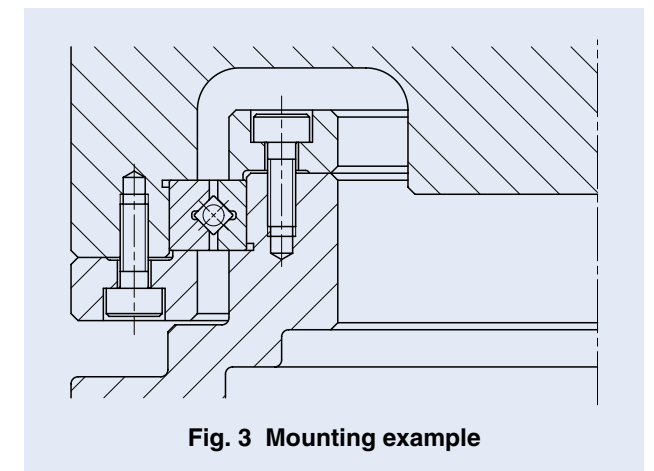
The operating temperature range for Open Type IKO Slim Type Crossed Roller Bearing is  $-20^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$ .

## Mounting

When the rigidity of the mounting parts is not sufficient, stress concentration will occur at the contact area between the rollers and raceways, and the bearing performance will be deteriorated significantly.

Therefore, it is necessary to carefully examine the rigidity of housing and the strength of fixing bolts when a large moment is applied.

The shoulder height diameters ( $d_a$  and  $D_a$ ) that are related to mounting should certainly satisfy the values shown in the dimension tables. When these dimensions are not appropriate, deformations of inner and outer rings will occur and the bearing performance will be deteriorated remarkably.



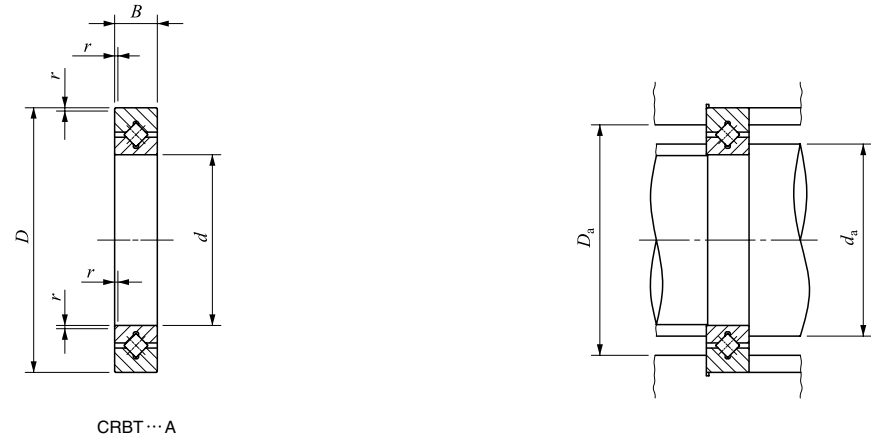
① The inner and outer rings should be securely fixed in the axial direction by using fixing plates, etc. Recommended thickness of the fixing plate is 1/2 or more of the bearing width ( $b$ ). The dimensions in axial direction of the housing bore and the fixing plates should be decided to get a secure fixing while considering the actual dimension of bearing width which is zero/minus-tolerance. (See Fig.3)

② The depth of housing bore is recommended to be the same to or larger than the bearing width.

③ Bearing has a plug for hole for inserting cylindrical rollers. When mounting the bearings, located the plug at a position that is not included in the maximum loading zone. The plug location can be found by the pin that is at the side of the outer ring.

1N=0.102kgf=0.2248lbs.  
 1mm=0.03937inch

# IKO Super Slim Type Crossed Roller Bearings

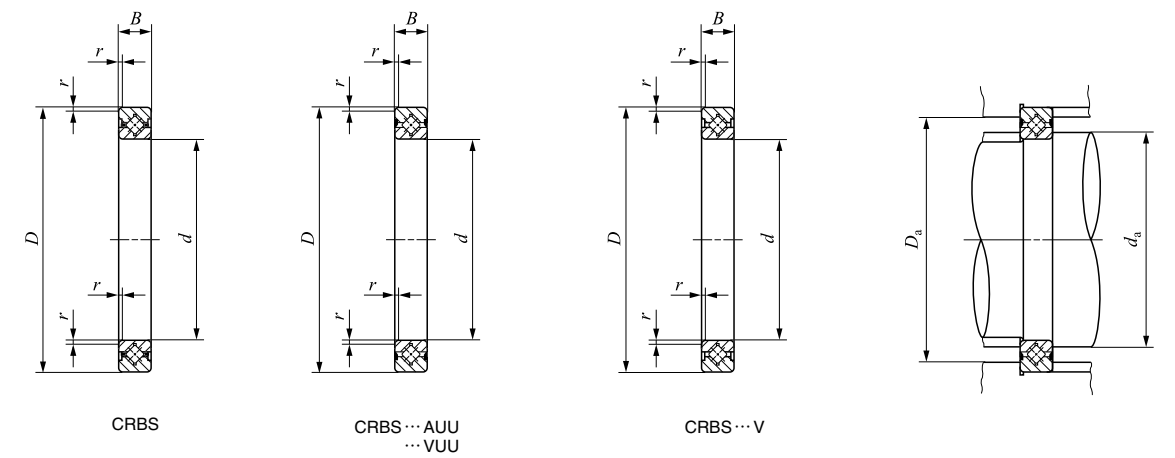


CRBT...A

Shaft diameter mm	Identification number	Weight (Ref.) g	Boundary dim. mm				Mounting dimensions mm		Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
			d	D	B	r <sup>(1)</sup> r <sub>min</sub>	d <sub>a</sub>	D <sub>a</sub>		
20	<b>CRBT 205 A</b>	14.8	20	31	5	0.15	22.5	27	1 400	1 290
30	<b>CRBT 305 A</b>	20.7	30	41	5	0.15	32.5	37	1 770	1 970
40	<b>CRBT 405 A</b>	26.5	40	51	5	0.15	42.5	47	2 000	2 520
50	<b>CRBT 505 A</b>	32.3	50	61	5	0.15	52.5	57	2 280	3 200

Note(1): Minimum allowable single value of chamfer *r*.  
Remarks 1. Oil hole is not provided.  
2. Grease is pre-packed.

# IKO Slim Type Crossed Roller Bearings



CRBS

CRBS...AUU  
...VUU

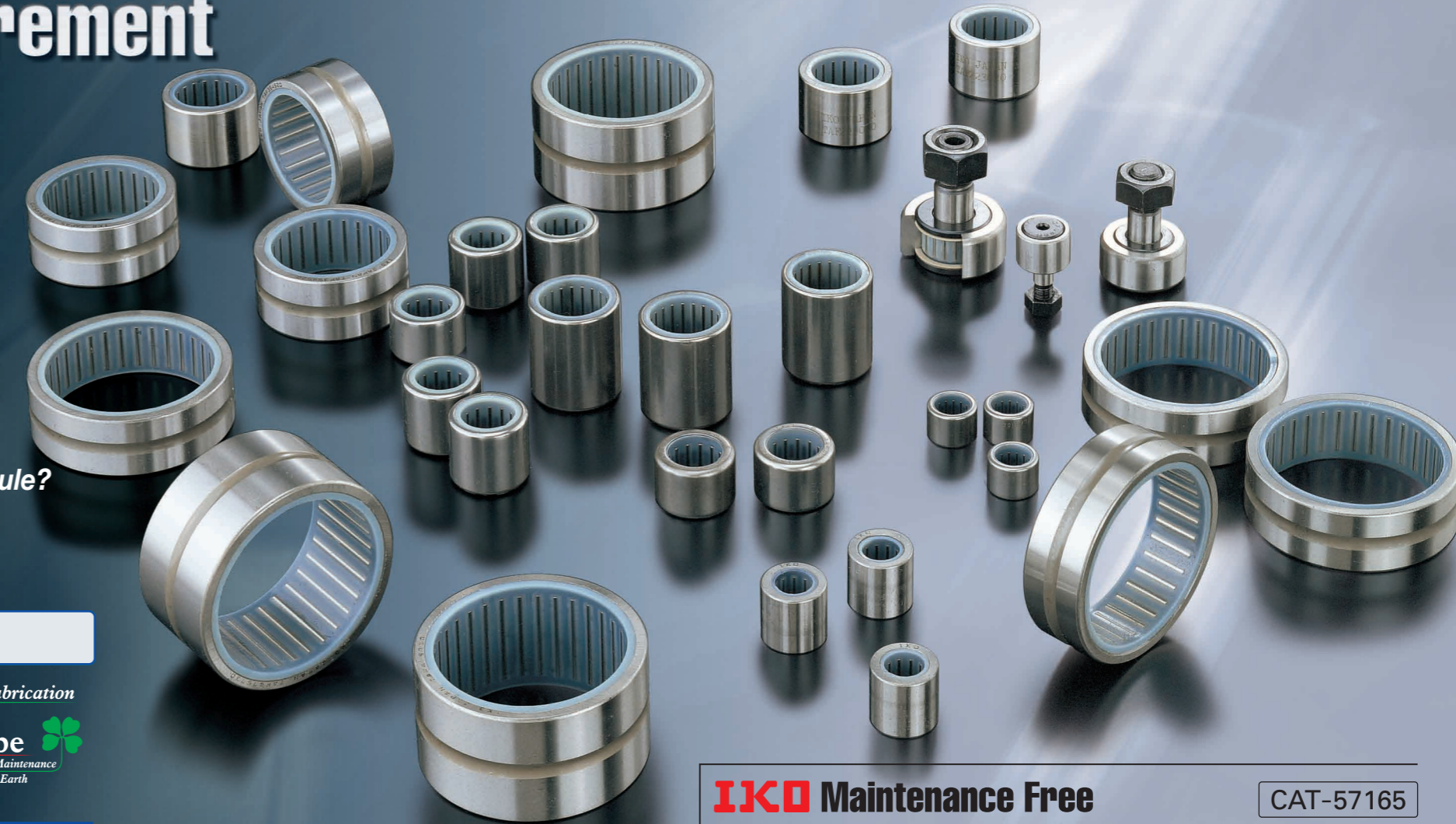
CRBS...V

Shaft diameter mm	Identification number (1)	Weight (Ref.) g	Boundary dim. mm				Mounting dimensions mm		CRBS (3)		CRBS...AUU (4)		CRBS...V (3) CRBS...VUU (4)	
			d	D	B	r <sup>(2)</sup> r <sub>min</sub>	d <sub>a</sub>	D <sub>a</sub>	With cage Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	With separator Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N	Full complement Basic dynamic load rating C N	Basic static load rating C <sub>0</sub> N
50	<b>CRBS 508</b>	84	50	66	8	0.4	54	61	4 900	6 170	4 680	5 810	6 930	9 800
60	<b>CRBS 608</b>	94	60	76	8	0.4	64	71	5 350	7 310	5 350	7 310	7 600	11 700
70	<b>CRBS 708</b>	108	70	86	8	0.4	74	81	5 740	8 440	5 740	8 440	8 190	13 600
80	<b>CRBS 808</b>	122	80	96	8	0.4	84	91	6 130	9 590	6 130	9 590	8 790	15 500
90	<b>CRBS 908</b>	135	90	106	8	0.4	94	101	6 490	10 700	6 490	10 700	9 310	17 400
100	<b>CRBS 1008</b>	152	100	116	8	0.4	104	111	6 850	11 900	6 530	11 100	9 850	19 300
110	<b>CRBS 1108</b>	163	110	126	8	0.4	114	121	7 160	13 000	6 850	12 300	10 300	21 200
120	<b>CRBS 1208</b>	184	120	136	8	0.4	124	131	7 530	14 100	7 070	13 000	10 900	23 000
130	<b>CRBS 1308</b>	199	130	146	8	0.4	134	141	7 860	15 300	7 270	13 800	11 200	24 600
140	<b>CRBS 1408</b>	205	140	156	8	0.4	144	151	8 060	16 400	7 510	14 900	11 700	26 800
150	<b>CRBS 1508</b>	220	150	166	8	0.4	154	161	8 350	17 500	7 810	16 000	12 100	28 700
160	<b>CRBS 16013</b>	620	160	186	13	0.6	166	179	20 300	39 900	19 400	37 700	26 900	58 200
170	<b>CRBS 17013</b>	675	170	196	13	0.6	176	189	20 900	42 200	20 000	39 900	27 800	61 600
180	<b>CRBS 18013</b>	710	180	206	13	0.6	186	199	21 500	44 600	21 900	45 700	28 600	65 200
190	<b>CRBS 19013</b>	740	190	216	13	0.6	196	209	22 100	46 900	22 900	49 200	29 300	68 600
200	<b>CRBS 20013</b>	780	200	226	13	0.6	206	219	22 500	49 300	23 300	51 600	30 000	72 200

Note(1): Only representative models are shown in the table. However also applicable to same size of all Slim Type Crossed Roller Bearings.  
(2): Minimum allowable single value of chamfer *r*.  
(3): Grease is not pre-packed. Apply proper lubrication.  
(4): Grease is prepacked.  
Remarks: Oil hole is not provided.



# Environment-friendly **IKO** C-Lube Bearings Minimizing Lubricant Requirement



## What is your trouble?

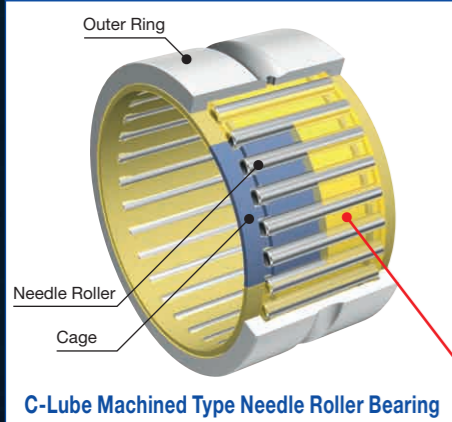
- 1 *Hard access to lubricating?*
- 2 *Machines and work places are dirty with lubricant?*
- 3 *Lubricating tools and instruments occupy the working places?*
- 4 *Having problems keeping up with lubrication maintenance schedule?*

## Find solutions with **IKO**

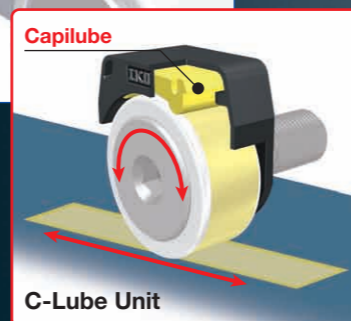
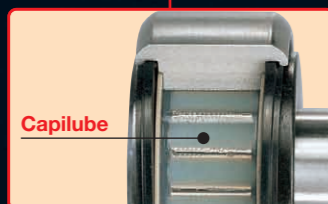
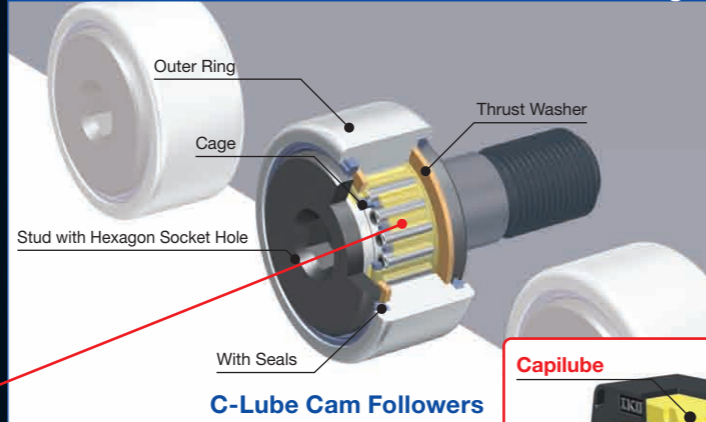
"C-Lube bearings" are IKO's unique maintenance free bearing products with thermosetting solid lubricant (Capilube) pre-packed in the bearing space. As the bearing rotates, the lubricating oil oozes out onto needle rollers and raceways in proper quantity keeping the lubrication performance for a long period of time.



### For shaft support



### For cam mechanisms and follower bearings



## **IKO** Maintenance Free C-Lube Bearing

CAT-57165

**Maintenance work can be reduced greatly**

*Requires no periodical lubrication and increases the productivity.*

**Minimizes the amount of lubricant and contributes to the earth environment**

*Contributes to the earth environment and reduces the running cost.*

**Suppresses machine designing and device costs**

*Working spaces can be utilized.*



## **NIPPON THOMPSON CO., LTD.**

Head office : 19-19 Takanawa 2-chome Minato-ku  
Tokyo 108-8586, Japan  
Phone : +81 (0)3-3448-5850  
Fax : +81 (0)3-3447-7637  
E-mail : ntt@ikonet.co.jp  
URL : <http://www.ikont.co.jp/eg/>  
Plant : Gifu, Kamakura

## **NIPPON THOMPSON CO., LTD.**

### **ASEAN REPRESENTATIVE OFFICE**

Level 8, #1 Silom Road, Silom  
Bangrak, Bangkok  
Thailand 10500  
Phone: +66 (0)-2-231-8278  
Fax: +66 (0)-2-231-8121  
E-mail: ntar@ikonet.co.jp

## **IKO-THOMPSON (SHANGHAI) LTD.**

Unit G, 23<sup>rd</sup> Floor, Zhao Feng World Trade Building  
No.369, Jiang Su Road  
Changning District, Shanghai 200050  
People's Republic of China  
Phone: +86 (0)21-5237-9100  
Fax: +86 (0)21-5237-9095  
E-mail: ntc@ikonet.co.jp

## **IKO INTERNATIONAL, INC.**

<http://www.ikont.com/>

### **East coast**

91 Walsh Drive  
Parsippany, NJ 07054  
U.S.A.  
Phone: +1 973-402-0254  
Toll Free: 1-800-922-0337  
Fax: +1 973-402-0441  
E-mail: eco@ikonet.co.jp

### **Midwest**

500 East Thorndale Avenue  
Wood Dale, IL 60191  
U.S.A.  
Phone: +1 630-766-6464  
Toll Free: 1-800-323-6694  
Fax: +1 630-766-6869  
E-mail: mwo@ikonet.co.jp

### **West coast**

20170 South Western Avenue  
Torrance, CA 90501  
U.S.A.  
Phone: +1 310-609-3988  
Toll Free: 1-800-252-3665  
Fax: +1 310-609-3916  
E-mail: wco@ikonet.co.jp

### **Southeast**

2150 Boggs Road, Suite 100  
Duluth, GA 30096  
U.S.A.  
Phone: +1 770-418-1904  
Toll Free: 1-800-874-6445  
Fax: +1 770-418-9403  
E-mail: seo@ikonet.co.jp

### **Southwest**

8105 N. Beltline Road  
Suite 130, Irving, TX 75063  
U.S.A.  
Phone: +1 972-929-1515  
Toll Free: 1-800-295-7886  
Fax: +1 972-915-0060  
E-mail: swo@ikonet.co.jp

## **NIPPON THOMPSON EUROPE B.V.**

<http://www.ikont.eu/>

### **The Netherlands**

Sheffieldstraat 35-39  
3047 AN Rotterdam  
The Netherlands  
Phone: +31 (0)10-4626868  
Fax: +31 (0)10-4626099  
E-mail: nte@ikonet.co.jp

### **Germany**

Mündelheimer Weg 56  
40472 Düsseldorf  
Germany  
Phone: +49 (0)211-414061  
Fax: +49 (0)211-427693  
E-mail: ntd@ikonet.co.jp

Im Gewerbepark D 30  
93059 Regensburg  
Germany  
Phone: +49 (0)941-206070  
Fax: +49 (0)941-2060719  
E-mail: ntdr@iko-nt.de

Gruben Str.95c  
66540 Neunkirchen  
Germany  
Phone: +49 (0)6821-999-860  
Fax: +49 (0)6821-999-8626  
E-mail: ntdn@iko-nt.de

### **UK**

2 Vincent Avenue, Crownhill  
Milton Keynes Bucks MK8 0AB  
United Kingdom  
Phone: +44 (0)1908-566144  
Fax: +44 (0)1908-565458  
E-mail: sales@iko.co.uk

### **Spain**

Autovia Madrid-Barcelona, Km. 43,700  
Polig. Ind. AIDA, A-8, Ofic. 2, 1<sup>a</sup>  
19200-Azuqueca de Henares  
Guadalajara, Spain  
Phone: +34 949-263390  
Fax: +34 949-263113  
E-mail: nts@ikonet.co.jp

### **France**

Roissypole Le Dôme  
2 rue de La Haye  
BP 15950 Tremblay en France  
95733 Roissy C. D. G. Cedex  
France  
Phone: +33 (0)1-48165739  
Fax: +33 (0)1-48165746  
E-mail: ntf@ikonet.co.jp

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**ISO 9001 & 14001 Quality system  
registration certificate**

