

IKO

New

Super Slim Crossed Roller Bearings

CRBT105A

Compact size and high rigidity



NIPPON THOMPSON CO., LTD. (JAPAN)

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 : https://www.ikonet.co.jp/eg/
 Plant : Gifu, Kamakura



IKO INTERNATIONAL, INC. (U.S.A.)

East Coast Operations (Sales Head Office)

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 Operations

101 Mark Street, Unit-G,
 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

Minnesota Sales Office

1500 McAndrews Road West, Suite 210,
 Burnsville, MN, 55337,
 U.S.A.
 Phone : +1-952-892-8415
 Toll Free : +1-800-323-6694
 Fax : +1-952-892-1722
 E-mail : mwo@ikonet.co.jp

West Coast Operations

9830 Norwalk Boulevard, Suite 198,
 Santa Fe Springs, CA, 90670,
 U.S.A.
 Phone : +1-562-941-1019
 Toll Free : +1-800-252-3665
 Fax : +1-562-941-4027
 E-mail : wco@ikonet.co.jp

Silicon Valley Sales Office

1500 Wyatt Drive, Suite 10,
 Santa Clara, CA, 95054,
 U.S.A.
 Phone : +1-408-492-0240
 Toll Free : +1-800-252-3665
 Fax : +1-408-492-0245
 E-mail : wco@ikonet.co.jp

Southeast Operations

3235 Satellite Boulevard Building 400, Suite 230,
 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 Operations

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

IKO THOMPSON BEARINGS CANADA, INC.(CANADA)

731-2425, Matheson Boulevard East, 7th floor,
 Mississauga, Ontario, L4W 5K4, Canada
 Phone : +1-905-361-2872
 Fax : +1-905-361-6401
 E-mail : itc@ikonet.co.jp

IKO BRASIL SERVIÇOS EMPRESARIAIS EIRELI (BRAZIL)

Rua Frei Caneca 1407,
 Condomínio Edifício Barão de Monte Cedro,
 Cjs. 801/802, Consolação, São Paulo- SP
 Cep : 01307-909
 Phone : +55 (0)11-2366-3033
 E-mail : itb@ikonet.co.jp

NIPPON THOMPSON EUROPE B.V. (EUROPE)

The Netherlands (Sales Head Office)

Keersopstraat 35,
 3044 EX, Rotterdam,
 The Netherlands
 Phone : +31 (0)10-462 68 68
 E-mail : nte@ikonet.co.jp



Germany Branch

Mündelheimer Weg 54,
 40472 Düsseldorf,
 Germany
 Phone : +49 (0)211-41 40 61
 Fax : +49 (0)211-42 76 93
 E-mail : ntd@ikonet.co.jp

Regensburg Sales Office

Im Gewerbepark D 30,
 93059 Regensburg,
 Germany
 Phone : +49 (0)941-20 60 70
 Fax : +49 (0)941-20 60 719
 E-mail : ntdr@iko-nt.de

Neunkirchen Sales Office

Gruben Str. 95c,
 66540 Neunkirchen,
 Germany
 Phone : +49 (0)6821-99 98 60
 Fax : +49 (0)6821-99 98 626
 E-mail : ntdn@iko-nt.de

U.K. Branch

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 Branch

Autovia Madrid-Barcelona, Km. 43,700
 Polig. Ind. AIDA - Nove A-8, Ofic. 2-1^a
 19200-Azuqueca de Henares,
 (Guadalajara) Spain
 Phone : +34 949-26 33 90
 Fax : +34 949-26 31 13
 E-mail : nts@ikonet.co.jp

France Branch

Bâtiment le Raphaël-Paris, Nord 2,
 22 avenue des Nations
 BP54394 Villepinte
 95943 ROISSY C.D.G Cedex
 France
 Phone : +33 (0)1-48 16 57 39
 Fax : +33 (0)1-48 16 57 46
 E-mail : ntf@ikonet.eu

IKO THOMPSON ASIA CO., LTD. (THAILAND)

1-7 Zuellig House, 3rd Floor,
 Silom Road, Silom, Bangkok,
 Bangkok 10500, Thailand
 Phone : +66 (0)2-637-5115
 Fax : +66 (0)2-637-5116
 E-mail : ita@ikonet.co.jp

IKO THOMPSON KOREA CO.,LTD. (KOREA)

201, Worldvision Bldg., 77-1, Yeouinaru-ro,
 Yeongdeungpo-gu, Seoul, Korea
 Phone : +82 (0)2-6337-5851
 Fax : +82 (0)2-6337-5852
 E-mail : itk@ikonet.co.jp

IKO-THOMPSON (SHANGHAI) LTD. (CHINA)

Shanghai (Sales Head Office)

1608-10, MetroPlaza No.555, LouShanGuan
 Road, ChangNing District, Shanghai,
 People's Republic of China, 200051
 Phone : +86 (0)21-3250-5525
 Fax : +86 (0)21-3250-5526
 E-mail : ntc@ikonet.co.jp

Beijing Branch

Room1506, Jingtai Tower,
 NO.24, Jianguomenwai Avenue,
 Chaoyang District, Beijing
 People's Republic of China, 100022
 Phone : +86 (0)10-6515-7681
 Fax : +86 (0)10-6515-7689
 E-mail : ntc@ikonet.co.jp

Guangzhou Branch

Room 834, Garden Tower, Garden Hotel
 368 Huanshi East Road, Yuexiu District, Guangzhou,
 Guangdong
 People's Republic of China, 510064
 Phone : +86 (0)20-8384-0797
 Fax : +86 (0)20-8381-2863
 E-mail : ntc@ikonet.co.jp

Wuhan Branch

Room 2300, Truroll Plaza No.72, Wusheng Road,
 Qiao kou District, Wuhan, Hubei,
 People's Republic of China, 430033
 Phone : +86 (0)27-8556-1610
 Fax : +86 (0)27-8556-1630
 E-mail : ntc@ikonet.co.jp

Shenzhen Branch

Room1808, KEENSTAR Building 18,
 Chuangye 2nd Rd 248, Bao'an, Shenzhen, Guangdong,
 People's Republic of China, 518081
 Phone : +86 (0)755-2265-0553
 Fax : +86 (0)755-2298-6655
 E-mail : ntc@ikonet.co.jp

Ningbo Office

Room 3406, Zhongnongxin Building, No.181,
 Zhongshan East Road, Haishu Ward, Ningbo,
 Zhejiang,
 People's Republic of China, 315000
 Phone : +86 (0)574-8718-9535
 Fax : +86 (0)574-8718-9533
 E-mail : ntc@ikonet.co.jp

Qingdao Office

Room 1111, Building 9, Qingdao Science and
 Technology City, No. 7 Wuyang Road,
 North District, Qingdao City, Shandong,
 People's Republic of China, 266045
 Phone : +86 (0)532-8670-2246
 Fax : +86 (0)532-8670-2242
 E-mail : ntc@ikonet.co.jp

Shenyang Office

2-1203 Tower I, City Plaza Shenyang NO.206,
 Nanjing North Street, Heping District, Shenyang,
 People's Republic of China, 110001
 Phone : +86 (0)24-2334-2662
 Fax : +86 (0)24-2334-2442
 E-mail : ntc@ikonet.co.jp

* The specifications and dimensions of products in this catalog are subject to change without prior notice. * When these products are exported, the exporter should confirm a forwarding country and a use, and, in case of falling under the customer's requirements, take necessary procedures such as export permission application. * Although all data in this catalog has been carefully compiled to make the information as complete as possible, NIPPON THOMPSON CO., LTD. shall not be liable for any damages whatsoever, direct or indirect, based upon any information in this catalog. NIPPON THOMPSON CO., LTD. makes no warranty, either express or implied, including the implied warranty of merchantability or fitness for a particular purpose. * Reproduction and conversion without permission are prohibited.



ISO 9001 & 14001 Quality system registration certificate



https://www.ikonet.co.jp/eg/

CAT-2957E

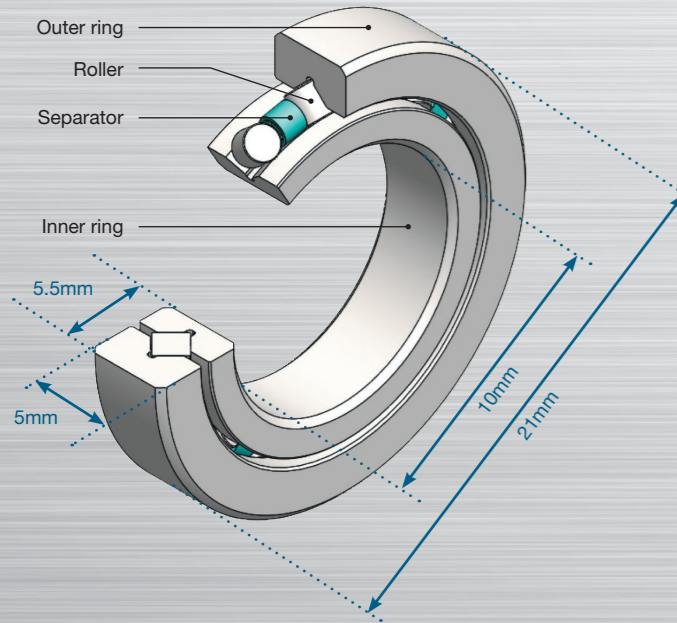
Printed in Japan © 2020.8 (AK)

NIPPON THOMPSON CO., LTD.

Now Available! Super Slim Type Crossed Roller Bearings with a bore diameter of just 10mm and outside diameter of 21mm. Smaller size can help reduce the size of your equipment.

Super Slim Type Crossed Roller Bearings
CRBT105A

CRBT105A Structure and Features



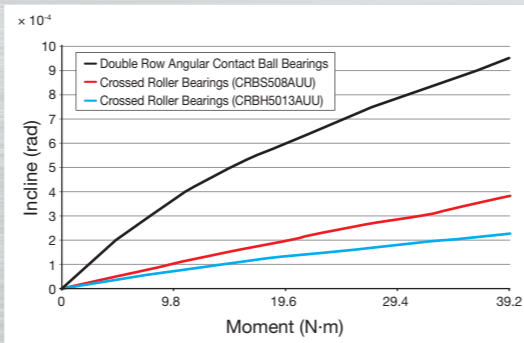
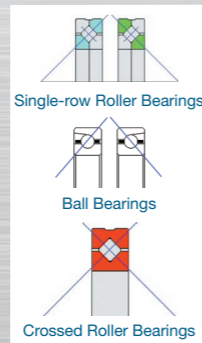
1. Ultra-Slim and Ultra-Small!

These Crossed Roller Bearings are ultra-slim and small with a 10mm bearing bore, 21mm outside diameter, and 5mm bearing width. The compact size is made possible thanks to IKO's technological expertise in miniature bearing production.

2. High Rigidity and a Compact Size!

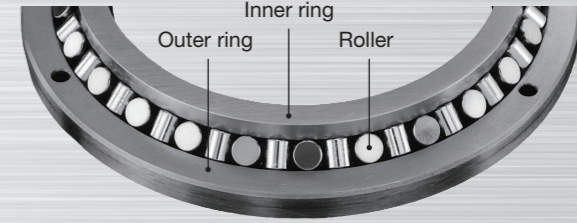
In Crossed Roller Bearings, the orthogonal array of rollers reduces the cross sectional area of rear-mounted 45° contact angle single-row roller bearings or ball bearings by half, creating a compact structure.

Even though they are more compact, the rigidity is 3 to 4 times greater than double-row angular contact ball bearings.



What are Crossed Roller Bearings?

Crossed Roller Bearings are compact bearings with their rollers alternately crossed at right angles to each other between inner and outer rings. The orthogonal array of the rollers allows the bearing to handle complex loads simultaneously from any direction, which makes assembly possible without needing to worry about load direction.



CRBT105A Usage Examples

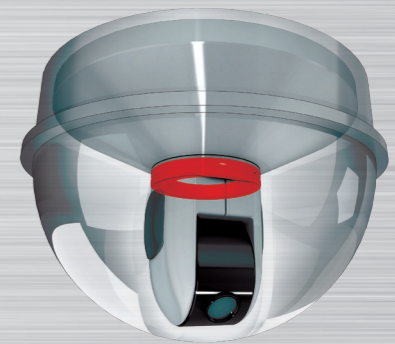
Compact Hand Robot

Crossed Roller Bearings feature high rotational accuracy and high rigidity which minimizes deflection, making them ideal for the swivel parts of hand robots, that require accurate positioning motion.



Compact Surveillance Camera

Crossed Roller Bearings can receive complex loads from various directions, making them ideal bearings for supporting surveillance cameras which are in constant 24-hour operation.



Dimensions/Accuracy/Radial Clearance

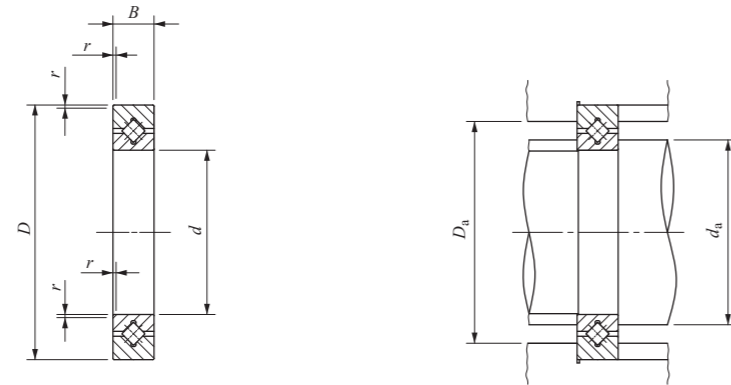


Table 1. Dimensions

Shaft diameter mm	Identification number	Mass (Ref.) g	Boundary dimensions mm				Mounting dimensions mm		Basic dynamic load rating C N	Basic static load rating C ₀ N
			d	D	B	r ⁽¹⁾	d _a	D _a		
10	CRBT 105 A	9.0	10	21	5	0.15	12.5	17	1120	811
15	CRBT 155 A	11.9	15	26	5	0.15	17.5	22	1320	1110
20	CRBT 205 A	14.8	20	31	5	0.15	22.5	27	1400	1290
30	CRBT 305 A	20.7	30	41	5	0.15	32.5	37	1770	1970
40	CRBT 405 A	26.5	40	51	5	0.15	42.5	47	2000	2520
50	CRBT 505 A	32.3	50	61	5	0.15	52.5	57	2280	3200

Note (1) Minimum allowable single value of chamfer dimension r. **Remarks** 1. No oil hole is provided. 2. Provided with pre-packed grease.

Table 2. Tolerances, allowable values, and radial internal clearances of Super Slim Type Crossed Roller Bearings

unit: μm

Nominal bore diameter d mm	Δ_{dmp} Single plane mean bore diameter deviation		Δ_{Dmp} Single plane mean outside diameter deviation		Δ_{Bx} and Δ_{Cs} Actual inner ring and outer ring width deviation		K_{ia} and S_{ia} Radial and axial runout of assembled bearing inner ring	K_{ea} and S_{ea} Radial and axial runout of assembled bearing outer ring	Radial internal clearance C ₁	
	High	Low	High	Low	High	Low	Maximum	Maximum	Min.	Maximum
	10	0	-8	0	-9	0	-75	10	15	0
15	0	-8	0	-9	0	-75	10	15	0	15
20	0	-10	0	-11	0	-75	13	20	0	15
30	0	-10	0	-11	0	-75	13	20	0	15
40	0	-12	0	-13	0	-75	15	25	0	15
50	0	-12	0	-13	0	-75	15	25	0	15

1N = 0.102 kgf