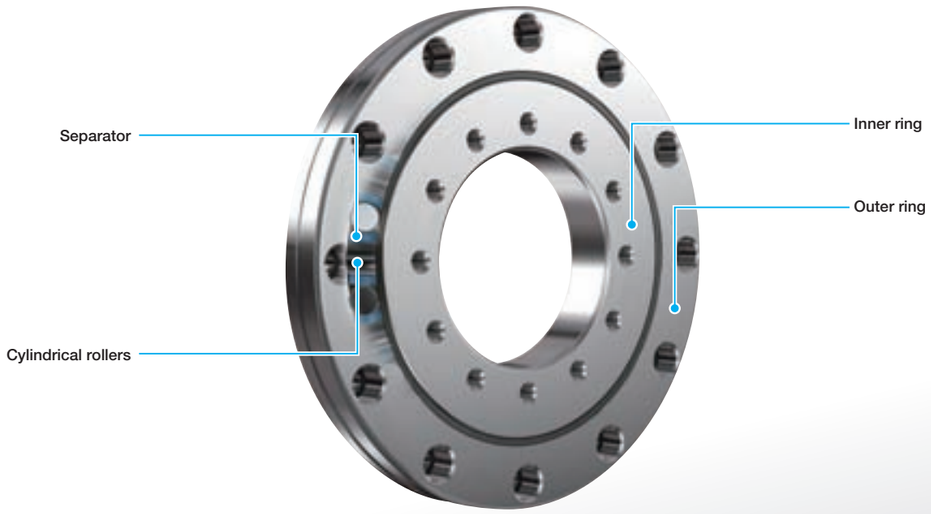
High Rigidity Cross Roller Bearing with Mounting Holes
CRBF···A

High rigidity crossed roller bearing with mounting holes is a compact, high rigidity and high accuracy bearing that can receives complex loads in any direction at the same time. This can be easily installed to the device with the mounting holes of the inner and outer rings. It is less subject to peripheral structures such as housing pressure plate and realizes high rigidity and high-accuracy operation.

CRBF···A Structure



CRBF···A Variation

Model of bearing	Mounting hole	Seal structure	Model and size	Size							
				10	20	25	35	55	80	90	115
CRBF···A	Tapped hole on inner ring, Counterbore on outer ring	Open type	CRBF···AT	☆	☆	☆	☆	☆	☆	☆	☆
		Sealed type	CRBF···ATUU	☆	☆	☆	☆	☆	☆	☆	☆
	Counterbore on inner and outer ring, same direction	Open type	CRBF···A	—	—	—	—	—	☆	☆	☆
		Sealed type	CRBF···AUU	—	—	—	—	—	☆	☆	☆
	Coutnerbore on inner and outer ring, opposite direction	Open type	CRBF···AD	—	—	—	—	—	☆	☆	☆
		Sealed type	CRBF···ADUU	—	—	—	—	—	☆	☆	☆

NEW

Features

1 High rigidity, load capacity and accuracy

High rigidity and high load capacity with small elastic deformation are realized by using cylindrical roller as rolling elements.
Both inner and outer rings are one-piece structure that minimize installation error.
Mounting holes for direct fixing on the mating mounting surface are provided, high rigidity and high accuracy guidance is realized being free from effects of housing structure and accuracy.

2 Compact

Compact design around bearing is possible, as housing and pressure plate are not necessary and installation is easy bolt-on type.
The number of parts and assembly processes can be reduced and miniaturization and weight reduction of the device is promoted.

3 Smooth rotation performance

It is suitable for relatively higher rotation speed, as a separator is integrated between the rollers.

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

Example of Identification Number

CRBF ❶ 90 ❷ 25 ❸ A ❶ T ❹ UU ❺ C1 ❻ P6 ❼

❶ Model code

CRBF···A	High rigidity cross roller bearing with mounting holes (with separator)

❷ Dimension

Indicates the bearing inner diameter. (unit: mm)

❸ Dimension

Indicates the bearing width. (unit: mm)

❹ Supplemental code–1

T	Inner ring threaded mounting hole
No symbol	Inner and outer rings counterbore in the same configuration
D	Inner and outer rings counterbore in reverse configuration

❺ Supplemental code–2

No symbol	Open type
UU	Sealed type
U	With seal on counterbore side of the outer ring
UD	With seal on opposite counterbore side of the outer ring

❻ Supplemental code–3 See Table 3.

T1	T1 Clearance
C1	C1 Clearance
C2	C2 Clearance

❼ Classification symbol See Table 1 and 2.

No symbol	Accuracy class 0
P6	Accuracy class 6
P5	Accuracy class 5
P4	Accuracy class 4
P2	Accuracy class 2

Accuracy and Clearance

Table 1 Tolerance and allowance of inner ring

unit: μm

Model and size	*Δdmp* Single plane mean bore dia. deviation								*ΔBs* Deviation of a single inner ring width		*Kia* Radial run-out of assembled bearing inner ring					*Sia* Assembled bearing innner ring face run-out with raceway				
	Class 0		Class 6		Class 5		Class 4 and 2				Class 0	Class 6	Class 5	Class 4	Class 2	Class 0	Class 6	Class 5	Class 4	Class 2
	H	L	H	L	H	L	H	L	H	L	Maximum					Maximum				
CRBF 9025 A	0	−20	0	−15	0	−10	0	−8	0	−75	25	13	6	5	2.5	25	13	6	5	2.5
CRBF 11528 A	0	−20	0	−15	0	−10	0	−8	0	−75	30	18	8	6	2.5	30	18	8	6	2.5

Table 2 Tolerance and allowance of outer ring

unit: μm

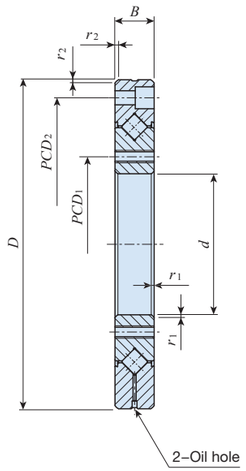
Model and size	*ΔDmp* Single plane mean bore dia. deviation								*ΔCs* Deviation of a single outer ring width		*Kea* Radial run-out of assembled bearing outer ring					*Sea* Assembled bearing outer ring face run-out with raceway				
	Class 0		Class 6		Class 5		Class 4 and 2				Class 0	Class 6	Class 5	Class 4	Class 2	Class 0	Class 6	Class 5	Class 4	Class 2
	H	L	H	L	H	L	H	L	H	L	Maximum					Maximum				
CRBF 9025 A	0	−30	0	−20	0	−15	0	−11	0	−75	45	23	13	8	5	45	23	13	8	5
CRBF 11528 A	0	−30	0	−20	0	−15	0	−11	0	−75	50	25	15	10	7	50	25	15	10	7

Table 3 Internal radial clearance

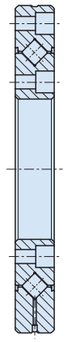
unit: μm

Model and size	Radial internal clearance					
	T1		C1		C2	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
CRBF 9025 A	−15	0	0	15	15	35
CRBF 11528 A	−15	0	0	20	20	50

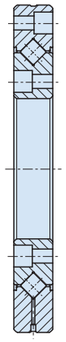
Dimension



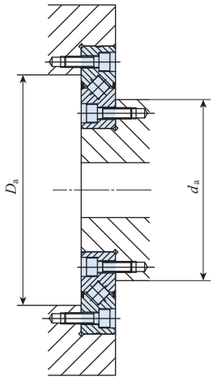
CRBF···AT

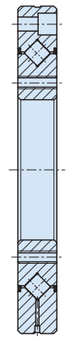


CRBF···A

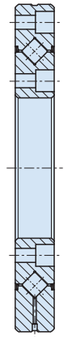


CRBF···AD

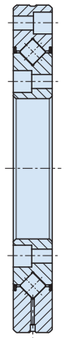




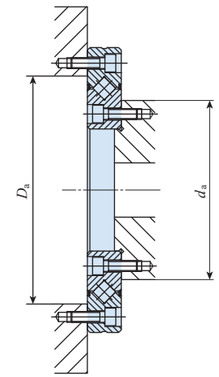
CRBF···ATUU



CRBF···AUU



CRBF···ADUU



Shaft diameter mm	Model and size	Mass (Ref.) kg	Nominal dimensions mm					Basic dynamic load rating	Basic static load rating	Mounting hole mm				Mounting dimensions mm	
										Inner ring		Outer ring			
			d	*D*	*B*	(1) *r*1min	(1) *r*2min	*C* N	*Co* N	*PCD*1	Mounting hole	*PCD*2	Mounting hole	*da*	*Da*
90	CRBF 9025 AT	4.83	90	210	25	1.5	1.5	73 400	108 000	112	12–M8 through	187	12–φ9 through φ14 Counterbore depth 12	132	168
	CRBF 9025 A	4.67									12–φ9 through φ14 Counterbore depth 12				
	CRBF 9025 AD														
115	CRBF 11528 AT	6.81	115	240	28	1.5	1.5	84 300	138 000	139	12–M8 through	217	12–φ9 through φ14 Counterbore depth 13.5	162	198
	CRBF 11528 A	6.63									12–φ9 through φ14 Counterbore depth 13.5				
	CRBF 11528 AD														

Note (1) This represents the minimum tolerance single surface mounting dimensions of the chamfer dimensions r_1 and r_2.
Remark: An oil groove and 2 oil holes are provided for the outer ring.
Grease is not pre-packed on the open type. Use the product with appropriate lubrication. Grease is pre-packed on sealed type.

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

NEW PRODUCTS GUIDE