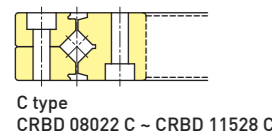
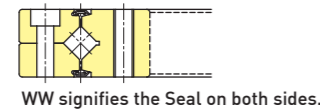
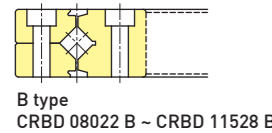
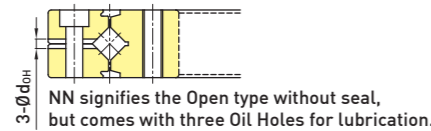
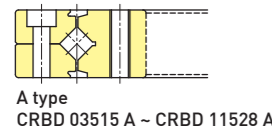
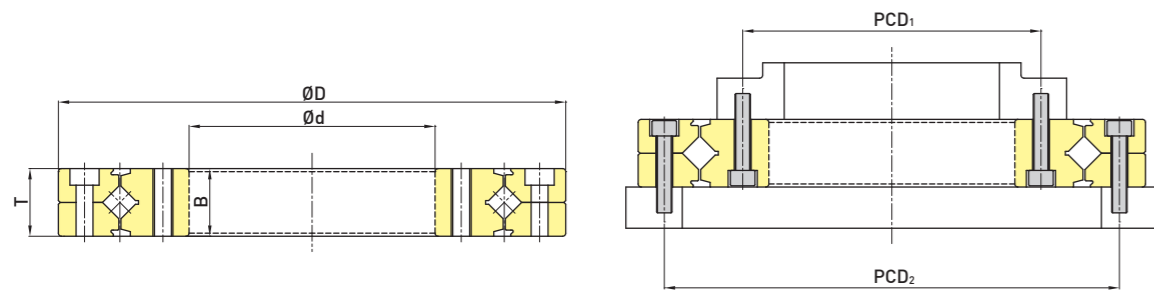


• Bearing table

3. CRBD (sealed or open type, the bore diameter 35 ~ 115 mm)



| Dimensions (mm) | | | | | Bearing No. | Mounting holes (mm) | | | | Basic loading rates (kN) | |
|-----------------|-----|------|------------------|------------------------------|--------------|---------------------|----------------|------------------|---|--------------------------|----------------|
| d | D | B, T | r _{min} | Oil holes d _{OH} | | Inner rings | | Outer rings | | C | C ₀ |
| | | | | | | PCD ₁ | Mounting holes | PCD ₂ | Mounting holes | | |
| 35 | 95 | 15 | 0.6 | 3 | CRBD 03515 A | 45 | 8-M4 through | 83 | 8-Ø4.5 through Ø8 counter bore depth 4.4 | 18.9 | 23.4 |
| 55 | 120 | 15 | 0.6 | 3 | CRBD 05515 A | 65 | 8-M5 through | 105 | 8-Ø5.5 through Ø9.5 counter bore depth 5.4 | 21.7 | 30.6 |
| 80 | 165 | 22 | 1 | 3 | CRBD 08022 A | 97 | 10-M5 through | 148 | 10-Ø5.5 through Ø9.5 counter bore depth 5.4 | 40.4 | 63.6 |
| | | | | | CRBD 08022 B | | | | | | |
| | | | | | CRBD 08022 C | | | | | | |
| 90 | 210 | 25 | 1.5 | 3 | CRBD 09025 A | 112 | 12-M8 through | 187 | 12-Ø9 through Ø14 counter bore depth 8.6 | 46 | 80.2 |
| | | | | | CRBD 09025 B | | | | | | |
| | | | | | CRBD 09025 C | | | | | | |
| 115 | 240 | 28 | 1.5 | 3 | CRBD 11528 A | 139 | 12-M8 through | 217 | 12-Ø9 through Ø14 counter bore depth 8.6 | 73.1 | 131.9 |
| | | | | | CRBD 11528 B | | | | | | |
| | | | | | CRBD 11528 C | | | | | | |

Note: The basic loading rates were referred to ISO76 / ISO281.

• Lubrication

- The general delivered Sealed Type Cross-Roller-Bearings can directly be used without replenishing grease, since they have been contained lithium soap based grease No. 2 already. However, the Open Type Cross-Roller-Bearings required regular lubrication. Please replenish grease about every one to six months, and you may replenish grease more frequent depend on your application. Once you replenish the grease, please use the same grease and distribute throughout the interior of the bearing.
- Please notice; do not mix different kinds of grease in your bearing.
- If the bearing be used in special environments, clean room, vacuum, high vibration or high/low temperatures, the typical lubricants may not be suitable for these applications. Please contact with HIWIN for more details about lubricants.

• Permissibility revolution

The allowable DN value is 60,000 for the Hiwin Cross-Roller-Bearing. For example, the CRBA 05013 bearing with pitch circle diameter (PCD) 65 mm, the permissible revolution = 60000 / 65 = 923 rpm.

• Precautions on use

- The bearing operation temperature is between 10°C and 80°C. If the temperature will be under 10°C or over 80°C, please contact with HIWIN.
- Please avoid the foreign material into the bearing. The bearing circulation path will be damage by the foreign material, and cause the bearing failed.
- If the foreign materials invade the bearing, please clean the bearing and rejoin the grease.

The specifications in this catalog are subject to change without notification.



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Crossed Roller Bearings

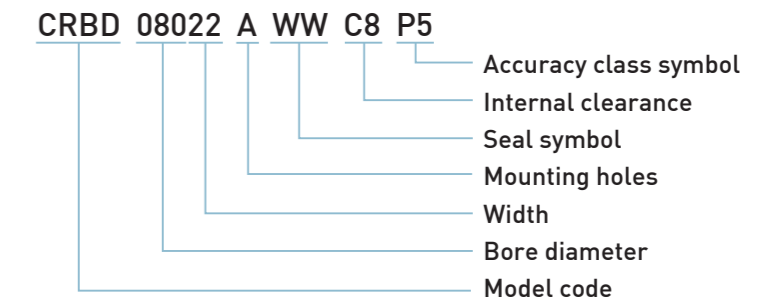
CRB Series



• Features

- High rigidity and loading capacity
- Smooth
- Taking loads from all directions at the same time
- Space saving
- Various specifications to meet your requirements
- Easy handling

• Specification of the bearing



CRB $\square\square\square\triangle\triangle$ \diamond WW C8 P5

- CRB \square : Model code of bearings. CRB stands for Crossed Roller Bearing. \square comprises three types, which could be recognized as A, B or D. A is represented for the split outer ring type, while B is symbolized for the split inner ring type, and D is represented the bearing with mounting holes.
- $\square\square\square$: Bore diameter of bearings (unit: mm). For example, 080 represent the bore diameter in 80 mm, and 100 represent the bore diameter in 100 mm.
- $\triangle\triangle$: Width of bearing (unit: mm).
- \diamond : Mounting holes symbol. With blank space means the bearing without mounting hole. A is represented the bearing with mounting screw holes, while B is symbolized the bearing with same direction mounting sink holes, and C is symbolized the bearing with opposite direction mounting sink holes.
- WW: Seal symbol. WW signifies the Seals on both sides; NN signifies the Open type without seal, but comes with three Oil Holes for lubrication.
- C8: Axial internal clearance. C1: Positive clearance, C8: Negative clearance.
- P5: Accuracy class symbol which contains General Class (P0) \ Class 5 (P5) and Class 4 (P4).

• Accuracy Table

1. Accuracy for inner ring of Crossed Roller Bearings

unit : μm

| Nominal bore diameter d (mm) | Bore diameter deviation Δd_{mp} | | | | | | | | Deviation of inner (or outer) ring width $\Delta B_s, \Delta T_s$ | | | Radial run out of inner ring, K_{is} | | | Inner ring face run out with raceway, S_{is} | |
|------------------------------|---|---------|---------|-----|---------|-----|------|-----|---|-----|-----|--|---------|---------|--|------|
| | General Class | | Class 5 | | Class 4 | | high | low | max | max | max | Class 5 | Class 4 | Class 5 | Class 4 | |
| | over | include | high | low | high | low | | | | | | | | | | high |
| 18 | 30 | 0 | -10 | 0 | -6 | 0 | -5 | 0 | -120 | 13 | 4 | 3 | 8 | 4 | | |
| 30 | 50 | 0 | -12 | 0 | -8 | 0 | -6 | 0 | -120 | 15 | 5 | 4 | 8 | 4 | | |
| 50 | 80 | 0 | -15 | 0 | -9 | 0 | -7 | 0 | -150 | 20 | 5 | 4 | 8 | 5 | | |
| 80 | 120 | 0 | -20 | 0 | -10 | 0 | -8 | 0 | -200 | 25 | 6 | 5 | 9 | 5 | | |
| 120 | 150 | 0 | -25 | 0 | -13 | 0 | -10 | 0 | -250 | 30 | 8 | 6 | 10 | 7 | | |
| 150 | 180 | 0 | -25 | 0 | -13 | 0 | -10 | 0 | -250 | 30 | 8 | 6 | 10 | 7 | | |
| 180 | 250 | 0 | -30 | 0 | -15 | 0 | -12 | 0 | -300 | 40 | 10 | 8 | 13 | 8 | | |
| 250 | 315 | 0 | -35 | 0 | -18 | 0 | - | 0 | -350 | 50 | 13 | - | 15 | - | | |

Note: 1. Please contact HIWIN if request for better accuracy than Class 4.
2. Radial run out of inner ring (K_{is}) and Inner ring face run out with raceway (S_{is}) are not used on CRBB type.

2. Accuracy for outer ring of Crossed Roller Bearings

unit : μm

| Nominal bore diameter D (mm) | Outside diameter deviation ΔD_{mp} | | | | | | | | Radial run out of outer ring, K_{os} | | | Outer ring face run out with raceway, S_{os} | |
|------------------------------|--|---------|---------|-----|---------|-----|-----|-----|--|---------|---------|--|--|
| | General Class | | Class 5 | | Class 4 | | max | max | max | Class 5 | Class 4 | | |
| | over | include | high | low | high | low | | | | | | | |
| 18 | 30 | 0 | -9 | 0 | -6 | 0 | -5 | 15 | 6 | 4 | 8 | 5 | |
| 30 | 50 | 0 | -11 | 0 | -7 | 0 | -6 | 20 | 7 | 5 | 8 | 5 | |
| 50 | 80 | 0 | -13 | 0 | -9 | 0 | -7 | 25 | 8 | 5 | 10 | 5 | |
| 80 | 120 | 0 | -15 | 0 | -10 | 0 | -8 | 35 | 10 | 6 | 11 | 6 | |
| 120 | 150 | 0 | -18 | 0 | -11 | 0 | -9 | 40 | 11 | 7 | 13 | 7 | |
| 150 | 180 | 0 | -25 | 0 | -13 | 0 | -10 | 45 | 13 | 8 | 14 | 8 | |
| 180 | 250 | 0 | -30 | 0 | -15 | 0 | -11 | 50 | 15 | 10 | 15 | 10 | |
| 250 | 315 | 0 | -35 | 0 | -18 | 0 | -13 | 60 | 18 | 11 | 18 | 10 | |

Note: 1. Please contact HIWIN if request for better accuracy than Class 4.
2. Radial run out of outer ring (K_{os}) and Outer ring face run out with raceway (S_{os}) are not used on CRBA type.

• Axial internal clearance

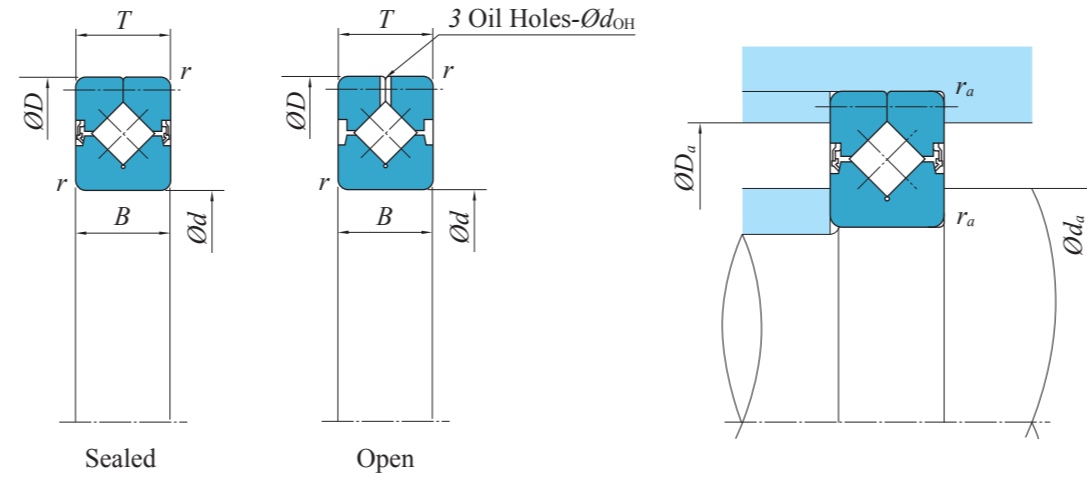
unit : μm

| Nominal bore diameter, d (mm) | | Clearance | | | |
|-------------------------------|---------|-----------|-----|-----|-----|
| | | C8 | | C1 | |
| over | include | min | max | min | max |
| 30 | 50 | -10 | 0 | 5 | 15 |
| 50 | 65 | -10 | 0 | 5 | 20 |
| 65 | 80 | -10 | 0 | 10 | 25 |
| 80 | 100 | -10 | 0 | 10 | 30 |
| 100 | 120 | -15 | 0 | 10 | 30 |
| 120 | 140 | -15 | 0 | 10 | 35 |
| 140 | 160 | -15 | 0 | 10 | 35 |
| 160 | 180 | -15 | 0 | 10 | 40 |
| 180 | 200 | -15 | 0 | 15 | 45 |
| 200 | 225 | -20 | 0 | 15 | 50 |
| 225 | 250 | -20 | 0 | 15 | 50 |
| 250 | 280 | -20 | 0 | 20 | 55 |

Note: The C8 clearance (negative clearance) should be selected for higher accuracy such as Class 5 or above.

• Bearing table

1. CRBA (sealed or open type, the bore diameter 50 ~ 250 mm)

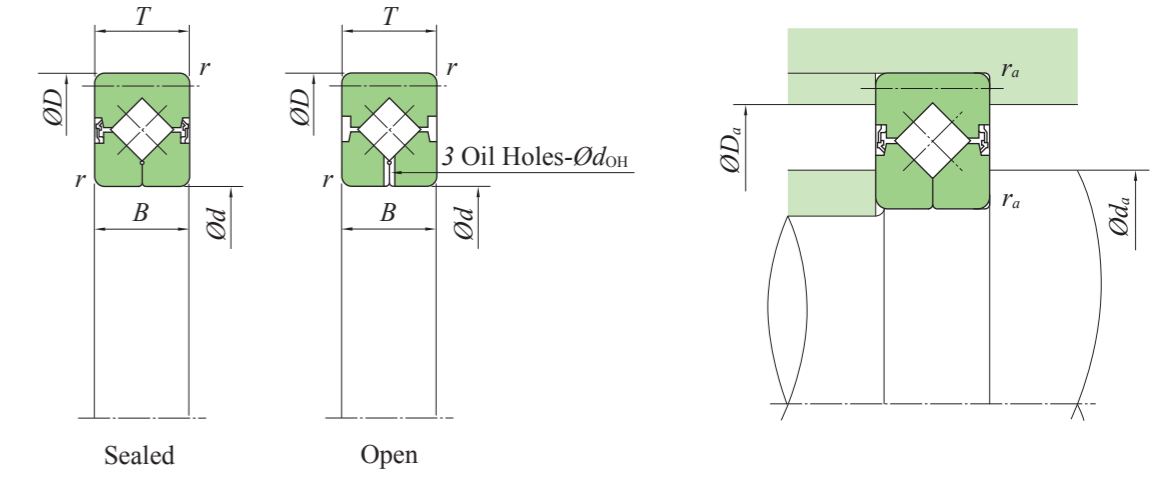


| Dimensions (mm) | | | Bearing No. | Oil hole d_{OH} (mm) | Basic loading rates (kN) | | Abutment and fillet dimensions (mm) | | | | |
|-----------------|-----|------|-------------|------------------------|--------------------------|-------|-------------------------------------|------|-------|-----|-------|
| d | D | B, T | | | C | C_0 | d_a | | D_a | | r_a |
| | | | | | | | min | max | min | max | max |
| 50 | 80 | 13 | CRBA 05013 | 2 | 18.9 | 23.4 | 56.5 | 57.5 | 70 | 71 | 0.6 |
| 60 | 90 | 13 | CRBA 06013 | 2 | 20.3 | 27 | 67 | 68 | 80 | 81 | 0.6 |
| 70 | 100 | 13 | CRBA 07013 | 2 | 21.7 | 30.6 | 77 | 78 | 90 | 91 | 0.6 |
| 80 | 110 | 13 | CRBA 08013 | 2 | 22.8 | 34.2 | 87 | 88 | 100 | 101 | 0.6 |
| 80 | 120 | 16 | CRBA 08016 | 2.5 | 30.2 | 44.8 | 92 | 94 | 106 | 108 | 0.6 |
| 90 | 130 | 16 | CRBA 09016 | 2.5 | 30.8 | 47.4 | 102 | 104 | 116 | 118 | 1 |
| 90 | 140 | 20 | CRBA 09020 | 2.5 | 39.7 | 60.2 | 107 | 109 | 121 | 123 | 1 |
| 100 | 140 | 16 | CRBA 10016 | 2.5 | 32.5 | 52.3 | 112 | 114 | 126 | 128 | 1 |
| 100 | 150 | 20 | CRBA 10020 | 2.5 | 40.4 | 63.6 | 117 | 119 | 131 | 133 | 1 |
| 110 | 160 | 20 | CRBA 11020 | 2.5 | 42.7 | 70.2 | 127 | 129 | 141 | 143 | 1 |
| 120 | 150 | 16 | CRBA 12016 | 2.5 | 28.1 | 50.3 | 127 | 128 | 140 | 141 | 1 |
| 120 | 170 | 20 | CRBA 12020 | 2.5 | 44.9 | 76.9 | 137 | 139 | 151 | 153 | 1.5 |
| 120 | 180 | 25 | CRBA 12025 | 2.5 | 66.3 | 109 | 140 | 144 | 156 | 160 | 1.5 |
| 130 | 190 | 25 | CRBA 13025 | 2.5 | 67.8 | 114.8 | 150 | 154 | 166 | 170 | 1.5 |
| 140 | 200 | 25 | CRBA 14025 | 2.5 | 69.5 | 120.6 | 160 | 164 | 176 | 180 | 1.5 |
| 150 | 210 | 25 | CRBA 15025 | 2.5 | 73.1 | 131.9 | 170 | 174 | 186 | 190 | 1.5 |
| 160 | 220 | 25 | CRBA 16025 | 2.5 | 74.5 | 137.7 | 180 | 184 | 196 | 200 | 1.5 |
| 170 | 220 | 20 | CRBA 17020 | 2.5 | 52.3 | 103.6 | 187 | 189 | 201 | 203 | 1.5 |
| 180 | 240 | 25 | CRBA 18025 | 2.5 | 79.6 | 154.8 | 200 | 204 | 216 | 220 | 1.5 |
| 200 | 260 | 25 | CRBA 20025 | 2.5 | 82.3 | 166.4 | 219 | 223 | 237 | 241 | 2 |
| 220 | 280 | 25 | CRBA 22025 | 2.5 | 86.3 | 183.5 | 239 | 243 | 257 | 261 | 2 |
| 240 | 300 | 25 | CRBA 24025 | 2.5 | 90.5 | 200.6 | 259 | 263 | 277 | 281 | 2 |
| 250 | 310 | 25 | CRBA 25025 | 2.5 | 91.6 | 206.4 | 269 | 273 | 287 | 291 | 2 |

Note: The basic loading rates were referred to ISO76 / ISO281.

• Bearing table

2. CRBB (sealed or open type, the bore diameter 50 ~ 250 mm)



| Dimensions (mm) | | | Bearing No. | Oil hole d_{OH} (mm) | Basic loading rates (kN) | | Abutment and fillet dimensions (mm) | | | | |
|-----------------|-----|------|-------------|------------------------|--------------------------|-------|-------------------------------------|------|-------|-----|-------|
| d | D | B, T | | | C | C_0 | d_a | | D_a | | r_a |
| | | | | | | | min | max | min | max | max |
| 50 | 80 | 13 | CRBB 05013 | 2 | 18.9 | 23.4 | 56.5 | 57.5 | 70 | 71 | 0.6 |
| 60 | 90 | 13 | CRBB 06013 | 2 | 20.3 | 27 | 67 | 68 | 80 | 81 | 0.6 |
| 70 | 100 | 13 | CRBB 07013 | 2 | 21.7 | 30.6 | 77 | 78 | 90 | 91 | 0.6 |
| 80 | 110 | 13 | CRBB 08013 | 2 | 22.8 | 34.2 | 87 | 88 | 100 | 101 | 0.6 |
| 80 | 120 | 16 | CRBB 08016 | 2.5 | 30.2 | 44.8 | 92 | 94 | 106 | 108 | 0.6 |
| 90 | 130 | 16 | CRBB 09016 | 2.5 | 30.8 | 47.4 | 102 | 104 | 116 | 118 | 1 |
| 90 | 140 | 20 | CRBB 09020 | 2.5 | 39.7 | 60.2 | 107 | 109 | 121 | 123 | 1 |
| 100 | 140 | 16 | CRBB 10016 | 2.5 | 32.5 | 52.3 | 112 | 114 | 126 | 128 | 1 |
| 100 | 150 | 20 | CRBB 10020 | 2.5 | 40.4 | 63.6 | 117 | 119 | 131 | 133 | 1 |
| 110 | 160 | 20 | CRBB 11020 | 2.5 | 42.7 | 70.2 | 127 | 129 | 141 | 143 | 1 |
| 120 | 150 | 16 | CRBB 12016 | 2.5 | 28.1 | 50.3 | 127 | 128 | 140 | 141 | 1 |
| 120 | 170 | 20 | CRBB 12020 | 2.5 | 44.9 | 76.9 | 137 | 139 | 151 | 153 | 1.5 |
| 120 | 180 | 25 | CRBB 12025 | 2.5 | 66.3 | 109 | 140 | 144 | 156 | 160 | 1.5 |
| 130 | 190 | 25 | CRBB 13025 | 2.5 | 67.8 | 114.8 | 150 | 154 | 166 | 170 | 1.5 |
| 140 | 200 | 25 | CRBB 14025 | 2.5 | 69.5 | 120.6 | 160 | 164 | 176 | 180 | 1.5 |
| 150 | 210 | 25 | CRBB 15025 | 2.5 | 73.1 | 131.9 | 170 | 174 | 186 | 190 | 1.5 |
| 160 | 220 | 25 | CRBB 16025 | 2.5 | 74.5 | 137.7 | 180 | 184 | 196 | 200 | 1.5 |
| 170 | 220 | 20 | CRBB 17020 | 2.5 | 52.3 | 103.6 | 187 | 189 | 201 | 203 | 1.5 |
| 180 | 240 | 25 | CRBB 18025 | 2.5 | 79.6 | 154.8 | 200 | 204 | 216 | 220 | 1.5 |
| 200 | 260 | 25 | CRBB 20025 | 2.5 | 82.3 | 166.4 | 219 | 223 | 237 | 241 | 2 |
| 220 | 280 | 25 | CRBB 22025 | 2.5 | 86.3 | 183.5 | 239 | 243 | 257 | 261 | 2 |
| 240 | 300 | 25 | CRBB 24025 | 2.5 | 90.5 | 200.6 | 259 | 263 | 277 | 281 | 2 |
| 250 | 310 | 25 | CRBB 25025 | 2.5 | 91.6 | 206.4 | 269 | 273 | 287 | 291 | 2 |

Note: The basic loading rates were referred to ISO76 / ISO281.