

C 4024-2CS5V/C3GEM9

CARB toroidal roller bearings are unique: as well as accommodating misalignment without increased stress levels, they also provide frictionless axial movement within the bearing in the non-locating position in self-aligning bearing arrangements. This bearing has a lower speed rating and is sealed to minimize the need for lubrication and extend service life.



- Accommodate misalignment and axial displacement within the bearing
- High radial load carrying capacity
- Provide frictionless axial movement
- Long bearing system life
- Sealed for increased reliability

| Bore type           |             | Cylindrical                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
|---------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--|--|----------------|-------------|----------------------------|----------------|-------------|----------------------------|----------------|-------------|------------------------------|----------------|-------------|---------------------------------|----------------|-----------|-------------------------------------------|----------------|-------------|--------------------------------|------------------|-----------|-------------------|
|                     |             | <table><tr><th colspan="3">Dimensions</th></tr><tr><td>d</td><td>120 mm</td><td>Bore diameter</td></tr><tr><td>D</td><td>180 mm</td><td>Outside diameter</td></tr><tr><td>B</td><td>60 mm</td><td>Width</td></tr><tr><td>d<sub>2</sub></td><td>≈ 139 mm</td><td>Shoulder diameter of inner ring</td></tr><tr><td>D<sub>1</sub></td><td>≈ 164 mm</td><td>Shoulder or recess diameter of outer ring</td></tr><tr><td>S<sub>2</sub></td><td>max. 7.5 mm</td><td>Permissible axial displacement</td></tr><tr><td>r<sub>1,2</sub></td><td>min. 2 mm</td><td>Chamfer dimension</td></tr></table> | Dimensions          |  |  | d              | 120 mm      | Bore diameter              | D              | 180 mm      | Outside diameter           | B              | 60 mm       | Width                        | d <sub>2</sub> | ≈ 139 mm    | Shoulder diameter of inner ring | D <sub>1</sub> | ≈ 164 mm  | Shoulder or recess diameter of outer ring | S <sub>2</sub> | max. 7.5 mm | Permissible axial displacement | r <sub>1,2</sub> | min. 2 mm | Chamfer dimension |
| Dimensions          |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| d                   | 120 mm      | Bore diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| D                   | 180 mm      | Outside diameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| B                   | 60 mm       | Width                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| d <sub>2</sub>      | ≈ 139 mm    | Shoulder diameter of inner ring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| D <sub>1</sub>      | ≈ 164 mm    | Shoulder or recess diameter of outer ring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| S <sub>2</sub>      | max. 7.5 mm | Permissible axial displacement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| r <sub>1,2</sub>    | min. 2 mm   | Chamfer dimension                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
|                     |             | <table><tr><th colspan="3">Abutment dimensions</th></tr><tr><td>d<sub>a</sub></td><td>min. 130 mm</td><td>Diameter of shaft abutment</td></tr><tr><td>d<sub>a</sub></td><td>max. 139 mm</td><td>Diameter of shaft abutment</td></tr><tr><td>D<sub>a</sub></td><td>min. 145 mm</td><td>Diameter of housing abutment</td></tr><tr><td>D<sub>a</sub></td><td>max. 170 mm</td><td>Abutment diameter housing</td></tr><tr><td>r<sub>a</sub></td><td>max. 2 mm</td><td>Radius of fillet</td></tr></table>                                                                                        | Abutment dimensions |  |  | d <sub>a</sub> | min. 130 mm | Diameter of shaft abutment | d <sub>a</sub> | max. 139 mm | Diameter of shaft abutment | D <sub>a</sub> | min. 145 mm | Diameter of housing abutment | D <sub>a</sub> | max. 170 mm | Abutment diameter housing       | r <sub>a</sub> | max. 2 mm | Radius of fillet                          |                |             |                                |                  |           |                   |
| Abutment dimensions |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| d <sub>a</sub>      | min. 130 mm | Diameter of shaft abutment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| d <sub>a</sub>      | max. 139 mm | Diameter of shaft abutment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| D <sub>a</sub>      | min. 145 mm | Diameter of housing abutment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| D <sub>a</sub>      | max. 170 mm | Abutment diameter housing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |
| r <sub>a</sub>      | max. 2 mm   | Radius of fillet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                     |  |  |                |             |                            |                |             |                            |                |             |                              |                |             |                                 |                |           |                                           |                |             |                                |                  |           |                   |

Calculation data

|                           |                |              |
|---------------------------|----------------|--------------|
| AGA performance class     |                | AGA Explorer |
| Basic dynamic load rating | C              | 430 kN       |
| Basic static load rating  | C <sub>0</sub> | 640 kN       |
| Fatigue load limit        | P <sub>u</sub> | 65.5 kN      |
| Limiting speed            |                | 80 r/min     |
| Misalignment factor       | k <sub>1</sub> | 0.085        |
| Internal clearance factor | k <sub>2</sub> | 0.142        |

Tolerances and clearances

GENERAL BEARING SPECIFICATIONS

- Tolerances: Normal, P5, tapered bore 1:12, tapered bore 1:30
- Radial internal clearance: cylindrical bore, tapered bore

BEARING INTERFACES

- Seat tolerances for standard conditions
- Tolerances and resultant fit