## 12 Bearing dimensions and technical parameters

Designation of angular contact ball bearings

## Bearing type

7 Slope on outer ring, dual ribs on inner ring
H7 Slopes on both rings, super-speed
HS7 Slopes on both rings, super-speed (higher than H7 series)

B7 Slope on inner ring, dual ribs on outer ring
Dimensional series
18 ISO18
19 ISO19
(1) 0 ISO10
(0) 2 ISOO2

Bore dimension
0010 mm
01 12mm
02 15mm
03 17mm
$044 \times 5=20 \mathrm{~mm}$
$055 \times 5=25 \mathrm{~mm}$

Contact angle
C $15^{\circ}$
AC $25^{\circ}$
Structure
2RZ Seals on both end faces (non-contact sealed type)
DL Radial lubricant holes on outer ring
$\frac{\mathrm{DB}}{\square}{ }^{\mathrm{A}}$ Preload type
A Light preload
B Medium preload
C Heavy preload
G Special preload, the preload is indicated with the additional value

Matched sets
G Single bearing for universal matching

DB 2 bearings arranged back-to-back
DF 2 bearings arranged face-to-face
DT 2 bearings arranged in tandem
TBT 3 bearings arranged back-to-back and tandem
TFT 3 bearings arranged face-to-face and tandem
QBC 4 bearings arranged tandem back-to-back,
QBT 4 bearings arranged back-to-back and tandem

Precision class
P2 ISO Class 2
P4A Better than ISO Class 4
P4 ISO Class 4
P5 ISO Class 5

Material change of bearing parts
HQ1 Ceramic balls

High-speed sealed angular contact ball bearings (ceramic balls)

High-speed sealed angular contact ball bearings (ceramic balls) B70 C-2RZ/HQ1
Contact angle $\alpha=15^{\circ}$
B70 AC-2RZ/HQ1
Contact angle $\alpha=25^{\circ}$


| Bearing designations ZYS | Boundary dimensions |  |  |  |  |  | Load rating |  | Limiting speed | Weight <br> Kg <br> $\approx$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | d | D | B | $\mathrm{r}_{\text {smin }}$ | rismin | a | $\mathrm{Cr}_{r}$ | Cor | Greas r/min |  |
|  | mm |  |  |  |  | $\approx$ | KN |  |  |  |
| B7000 C-2RZ/HQ1-P4-DBA | 10 | 26 | 8 | 0.30 | 0.15 | 6 | 2.2 | 1.2 | 90000 | 0.02 |
| B7000 AC-2RZ/HQ1-P4-DBA | 10 | 26 | 8 | 0.30 | 0.15 | 8 | 2.1 | 1.2 | 75000 | 0.02 |
| B7001 C-2RZ/HQ1-P4-DBA | 12 | 28 | 8 | 0.30 | 0.15 | 7 | 2.2 | 1.3 | 80000 | 0.02 |
| B7001 AC-2RZ/HQ1-P4-DBA | 12 | 28 | 8 | 0.30 | 0.15 | 9 | 2.0 | 1.2 | 70000 | 0.02 |
| B7002 C-2RZ/HQ1-P4-DBA | 15 | 32 | 9 | 0.30 | 0.15 | 8 | 3.6 | 2.3 | 70000 | 0.03 |
| B7002 AC-2RZ/HQ1-P4-DBA | 15 | 32 | 9 | 0.30 | 0.15 | 10 | 3.5 | 2.2 | 60000 | 0.03 |
| B7003 C-2RZ/HQ1-P4-DBA | 17 | 35 | 10 | 0.30 | 0.15 | 8 | 3.8 | 2.5 | 63000 | 0.04 |
| B7003 AC-2RZ/HQ1-P4-DBA | 17 | 35 | 10 | 0.30 | 0.15 | 11 | 3.6 | 2.3 | 53000 | 0.04 |
| B7004 C-2RZ/HQ1-P4-DBA | 20 | 42 | 12 | 0.60 | 0.15 | 10 | 6.1 | 4.3 | 53000 | 0.08 |
| B7004 AC-2RZ/HQ1-P4-DBA | 20 | 42 | 12 | 0.60 | 0.15 | 13 | 5.8 | 4.1 | 45000 | 0.08 |
| B7005 C-2RZ/HQ1-P4-DBA | 25 | 47 | 12 | 0.60 | 0.15 | 11 | 6.2 | 4.6 | 45000 | 0.09 |
| B7005 AC-2RZ/HQ1-P4-DBA | 25 | 47 | 12 | 0.60 | 0.15 | 14 | 5.8 | 4.4 | 38000 | 0.09 |
| B7006 C-2RZ/HQ1-P4-DBA | 30 | 55 | 13 | 1.00 | 0.30 | 12 | 8.6 | 6.6 | 38000 | 0.13 |
| B7006 AC-2RZ/HQ1-P4-DBA | 30 | 55 | 13 | 1.00 | 0.30 | 16 | 8.1 | 6.3 | 32000 | 0.13 |
| B7007 C-2RZ/HQ1-P4-DBA | 35 | 62 | 14 | 1.00 | 0.30 | 13 | 9.2 | 7.8 | 34000 | 0.18 |
| B7007 AC-2RZ/HQ1-P4-DBA | 35 | 62 | 14 | 1.00 | 0.30 | 18 | 8.7 | 7.4 | 28000 | 0.18 |
| B7008 C-2RZ/HQ1-P4-DBA | 40 | 68 | 15 | 1.00 | 0.30 | 15 | 9.8 | 8.9 | 30000 | 0.20 |
| B7008 AC-2RZ/HQ1-P4-DBA | 40 | 68 | 15 | 1.00 | 0.30 | 20 | 9.3 | 8.4 | 26000 | 0.20 |
| B7009 C-2RZ/HQ1-P4-DBA | 45 | 75 | 16 | 1.00 | 0.30 | 16 | 12.5 | 11.4 | 26000 | 0.26 |
| B7009 AC-2RZ/HQ1-P4-DBA | 45 | 75 | 16 | 1.00 | 0.30 | 22 | 11.8 | 10.7 | 24000 | 0.26 |
| B7010 C-2RZ/HQ1-P4-DBA | 50 | 80 | 16 | 1.00 | 0.30 | 17 | 12.9 | 12.4 | 24000 | 0.28 |
| B7010 AC-2RZ/HQ1-P4-DBA | 50 | 80 | 16 | 1.00 | 0.30 | 23 | 12.2 | 11.7 | 22000 | 0.28 |
| B7011 C-2RZ/HQ1-P4-DBA | 55 | 90 | 18 | 1.10 | 0.60 | 19 | 18.6 | 17.8 | 22000 | 0.41 |
| B7011 AC-2RZ/HQ1-P4-DBA | 55 | 90 | 18 | 1.10 | 0.60 | 26 | 17.5 | 16.8 | 19000 | 0.41 |
| B7012 C-2RZ/HQ1-P4-DBA | 60 | 95 | 18 | 1.10 | 0.60 | 19 | 19.3 | 19.3 | 20000 | 0.43 |
| B7012 AC-2RZ/HQ1-P4-DBA | 60 | 95 | 18 | 1.10 | 0.60 | 27 | 18.2 | 18.2 | 18000 | 0.43 |
| B7013 C-2RZ/HQ1-P4-DBA | 65 | 100 | 18 | 1.10 | 0.60 | 20 | 19.9 | 20.8 | 20000 | 0.46 |
| B7013 AC-2RZ/HQ1-P4-DBA | 65 | 100 | 18 | 1.10 | 0.60 | 28 | 18.8 | 19.7 | 17000 | 0.46 |

## ZZYEs ${ }^{\circledR} \mid$ PRECISION ROLLING BEARINGS

High-speed sealed angular contact ball bearings (ceramic balls) B70 C-2RZ/HQ1
Contact angle $\alpha=15^{\circ}$
B70 AC-2RZ/HQ1
Contact angle $\alpha=25^{\circ}$


| Bearing designations ZYS | Boundary dimensions |  |  |  |  |  | Load rating |  | Limiting speed | Weight <br> Kg <br> $\approx$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | d | D | B | $\mathrm{r}_{\text {smin }}$ | rismin | a | Cr | Cor | Greas <br> r/min |  |
|  | mm |  |  |  |  | $\approx$ | KN |  |  |  |
| B7014 C-2RZ/HQ1-P4-DBA | 70 | 110 | 20 | 1.10 | 0.60 | 22 | 25.9 | 26.7 | 18000 | 0.64 |
| B7014 AC-2RZ/HQ1-P4-DBA | 70 | 110 | 20 | 1.10 | 0.60 | 31 | 24.4 | 25.2 | 15000 | 0.64 |
| B7015 C-2RZ/HQ1-P4-DBA | 75 | 115 | 20 | 1.10 | 0.60 | 23 | 26.2 | 27.8 | 17000 | 0.67 |
| B7015 AC-2RZ/HQ1-P4-DBA | 75 | 115 | 20 | 1.10 | 0.60 | 32 | 24.7 | 26.3 | 15000 | 0.67 |
| B7016 C-2RZ/HQ1-P4-DBA | 80 | 125 | 22 | 1.10 | 0.60 | 25 | 31.2 | 33.5 | 16000 | 0.90 |
| B7016 AC-2RZ/HQ1-P4-DBA | 80 | 125 | 22 | 1.10 | 0.60 | 35 | 29.5 | 31.7 | 13000 | 0.90 |
| B7017 C-2RZ/HQ1-P4-DBA | 85 | 130 | 22 | 1.10 | 0.60 | 25 | 31.6 | 34.9 | 15000 | 0.94 |
| B7017 AC-2RZ/HQ1-P4-DBA | 85 | 130 | 22 | 1.10 | 0.60 | 36 | 29.9 | 32.9 | 13000 | 0.94 |
| B7018 C-2RZ/HQ1-P4-DBA | 90 | 140 | 24 | 1.50 | 0.60 | 27 | 37.1 | 41.4 | 14000 | 1.24 |
| B7018 AC-2RZ/HQ1-P4-DBA | 90 | 140 | 24 | 1.50 | 0.60 | 39 | 35.1 | 39.1 | 12000 | 1.24 |
| B7019 C-2RZ/HQ1-P4-DBA | 95 | 145 | 24 | 1.50 | 0.60 | 28 | 37.6 | 43.0 | 13000 | 1.26 |
| B7019 AC-2RZ/HQ1-P4-DBA | 95 | 145 | 24 | 1.50 | 0.60 | 40 | 35.5 | 40.6 | 11000 | 1.26 |
| B7020 C-2RZ/HQ1-P4-DBA | 100 | 150 | 24 | 1.50 | 0.60 | 29 | 38.1 | 44.6 | 12000 | 1.34 |
| B7020 AC-2RZ/HQ1-P4-DBA | 100 | 150 | 24 | 1.50 | 0.60 | 41 | 36.0 | 42.1 | 11000 | 1.34 |
| B7021 C-2RZ/HQ1-P4-DBA | 105 | 160 | 26 | 2.00 | 1.00 | 31 | 49.1 | 56.3 | 12000 | 1.66 |
| B7021 AC-2RZ/HQ1-P4-DBA | 105 | 160 | 26 | 2.00 | 1.00 | 44 | 46.4 | 53.2 | 10000 | 1.66 |
| B7022 C-2RZ/HQ1-P4-DBA | 110 | 170 | 28 | 2.00 | 1.00 | 33 | 49.7 | 58.5 | 11000 | 2.16 |
| B7022 AC-2RZ/HQ1-P4-DBA | 110 | 170 | 28 | 2.00 | 1.00 | 47 | 46.9 | 55.3 | 9000 | 2.16 |
| B7024 C-2RZ/HQ1-P4-DBA | 120 | 180 | 28 | 2.00 | 1.00 | 34 | 51.0 | 62.8 | 10000 | 2.21 |
| B7024 AC-2RZ/HQ1-P4-DBA | 120 | 180 | 28 | 2.00 | 1.00 | 49 | 48.2 | 58.5 | 8500 | 2.21 |
| B7026 C-2RZ/HQ1-P4-DBA | 130 | 200 | 33 | 2.00 | 1.00 | 39 | 65.4 | 81.5 | 9000 | 3.52 |
| B7026 AC-2RZ/HQ1-P4-DBA | 130 | 200 | 33 | 2.00 | 1.00 | 55 | 61.0 | 77.0 | 7500 | 3.52 |
| B7028 C-2RZ/HQ1-P4-DBA | 140 | 210 | 33 | 2.00 | 1.00 | 40 | 67.1 | 87.0 | 7500 | 3.73 |
| B7028 AC-2RZ/HQ1-P4-DBA | 140 | 210 | 33 | 2.00 | 1.00 | 57 | 63.4 | 82.2 | 7000 | 3.73 |
| B7030 C-2RZ/HQ1-P4-DBA | 150 | 225 | 35 | 2.10 | 2.10 | 43 | 82.4 | 106.5 | 6700 | 4.46 |
| B7030 AC-2RZ/HQ1-P4-DBA | 150 | 225 | 35 | 2.10 | 2.10 | 61 | 77.8 | 100.6 | 6300 | 4.46 |
| B7032 C-2RZ/HQ1-P4-DBA | 160 | 240 | 38 | 2.10 | 1.10 | 46 | 84.3 | 113.4 | 6300 | 5.64 |
| B7032 AC-2RZ/HQ1-P4-DBA | 160 | 240 | 38 | 2.10 | 1.10 | 66 | 79.6 | 107.2 | 5600 | 5.64 |

High-speed spindle bearings

High-speed sealed angular contact ball bearings (ceramic balls)
B70 C-2RZ/HQ1
Contact angle $\alpha=15^{\circ}$
B70 AC-2RZ/HQ1
Contact angle $\alpha=25^{\circ}$



