

SHELL TYPE NEEDLE ROLLER BEARINGS

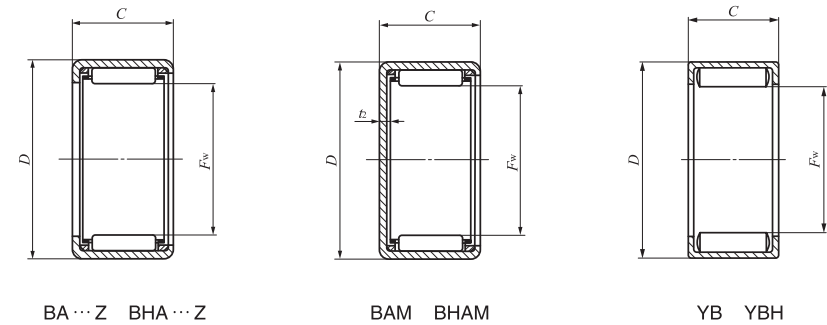
Inch Series



Shaft dia. 11.112 – 12.700mm

| Shaft dia.<br>mm<br>(inch) | Identification number |                     |            |                     |           |                     |            |                     |                 |                     |   |
|----------------------------|-----------------------|---------------------|------------|---------------------|-----------|---------------------|------------|---------------------|-----------------|---------------------|---|
|                            | Standard              | Mass<br>(Ref.)<br>g | Closed end | Mass<br>(Ref.)<br>g | Standard  | Mass<br>(Ref.)<br>g | Closed end | Mass<br>(Ref.)<br>g | Grease retained | Mass<br>(Ref.)<br>g |   |
| 11.112<br>(7/16)           | BA 76 Z               | 4.8                 | BAM 76     | 5.3                 | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 77 Z               | 5.6                 | BAM 77     | 6.2                 | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 78 Z               | 6.4                 | BAM 78     | 7                   | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 710 Z              | 7.9                 | BAM 710    | 8.5                 | —         | —                   | —          | —                   | —               | —                   |   |
|                            | —                     | —                   | —          | —                   | —         | —                   | —          | —                   | YB 78           | 8.2                 |   |
| —                          | —                     | —                   | —          | BHA 78 Z            | 9.3       | BHAM 78             | 10         | —                   | —               | —                   |   |
| —                          | —                     | —                   | —          | —                   | —         | —                   | —          | YBH 78              | 10.5            | —                   |   |
| 12.700<br>(1/2)            | BA 85 Z               | 4.4                 | BAM 85     | 5.2                 | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 86 Z               | 5.3                 | BAM 86     | 6.1                 | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 87 Z               | 6.3                 | BAM 87     | 7                   | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 88 Z               | 7.2                 | BAM 88     | 7.9                 | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 810 Z              | 8.9                 | BAM 810    | 9.6                 | —         | —                   | —          | —                   | —               | —                   |   |
|                            | BA 812 Z              | 10.6                | BAM 812    | 11.3                | —         | —                   | —          | —                   | —               | —                   |   |
|                            | —                     | —                   | —          | —                   | —         | —                   | —          | —                   | YB 84           | 4.3                 |   |
|                            | —                     | —                   | —          | —                   | —         | —                   | —          | —                   | YB 86           | 6.7                 |   |
|                            | —                     | —                   | —          | —                   | —         | —                   | —          | —                   | YB 87           | 7.9                 |   |
|                            | —                     | —                   | —          | —                   | —         | —                   | —          | —                   | YB 88           | 9.1                 |   |
|                            | —                     | —                   | —          | —                   | —         | —                   | —          | —                   | YB 810          | 11.5                |   |
|                            | —                     | —                   | —          | —                   | —         | —                   | —          | —                   | YB 812          | 13.9                |   |
|                            | —                     | —                   | —          | —                   | BHA 87 Z  | 9.1                 | BHAM 87    | 9.9                 | —               | —                   | — |
|                            | —                     | —                   | —          | —                   | BHA 88 Z  | 10.4                | BHAM 88    | 11.3                | —               | —                   | — |
|                            | —                     | —                   | —          | —                   | BHA 810 Z | 12.5                | BHAM 810   | 13.3                | —               | —                   | — |
| —                          | —                     | —                   | —          | BHA 812 Z           | 15        | BHAM 812            | 15.8       | —                   | —               | —                   |   |
| —                          | —                     | —                   | —          | —                   | —         | —                   | —          | YBH 810             | 16              | —                   |   |

Note(1) Allowable rotational speed applies to oil lubrication. For grease lubrication, a maximum of 60% of this value is allowable.  
 Remark Shell Type Grease Retained Full Complement Needle Roller Bearings are provided with prepacked grease. Standard type and closed end type bearings are not provided with prepacked grease, so perform proper lubrication when using these types of bearings.



| Boundary dimensions mm(inch) |                |             |                        | Standard mounting dimensions mm |        |                         |        | Basic dynamic load rating | Basic static load rating | Allowable rotational speed(1) | Assembled inner ring |
|------------------------------|----------------|-------------|------------------------|---------------------------------|--------|-------------------------|--------|---------------------------|--------------------------|-------------------------------|----------------------|
| F <sub>w</sub>               | D              | C           | t <sub>2</sub><br>Max. | Shaft dia.<br>h6                |        | Housing bore dia.<br>J7 |        | C<br>N                    | C <sub>0</sub><br>N      | min <sup>-1</sup>             |                      |
|                              |                |             |                        | Max.                            | Min.   | Max.                    | Min.   |                           |                          |                               |                      |
| 11.112 (7/16)                | 15.875 (5/8)   | 9.52(.375)  | 1                      | —                               | —      | —                       | —      | 3 290                     | 3 470                    | 35 000                        | —                    |
| 11.112 (7/16)                | 15.875 (5/8)   | 11.13(.438) | 1                      | —                               | —      | —                       | —      | 4 150                     | 4 680                    | 35 000                        | —                    |
| 11.112 (7/16)                | 15.875 (5/8)   | 12.70(.500) | 1                      | 11.112                          | 11.101 | 15.885                  | 15.867 | 4 460                     | 5 130                    | 35 000                        | —                    |
| 11.112 (7/16)                | 15.875 (5/8)   | 15.88(.625) | 1                      | —                               | —      | —                       | —      | 6 020                     | 7 550                    | 35 000                        | —                    |
| 11.112 (7/16)                | 15.875 (5/8)   | 12.70(.500) | —                      | —                               | —      | —                       | —      | 10 100                    | 15 900                   | 14 000                        | —                    |
| 11.112 (7/16)                | 17.462 (11/16) | 12.70(.500) | 1.3                    | 11.112                          | 11.101 | 17.472                  | 17.454 | 5 680                     | 5 970                    | 35 000                        | —                    |
| 11.112 (7/16)                | 17.462 (11/16) | 12.70(.500) | —                      | —                               | —      | —                       | —      | 12 500                    | 15 800                   | 14 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 7.92(.312)  | 1                      | —                               | —      | —                       | —      | 2 490                     | 2 510                    | 30 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 9.52(.375)  | 1                      | —                               | —      | —                       | —      | 3 470                     | 3 850                    | 30 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 11.13(.438) | 1                      | 12.700                          | 12.689 | 17.472                  | 17.454 | 4 380                     | 5 190                    | 30 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 12.70(.500) | 1                      | —                               | —      | —                       | —      | 4 710                     | 5 700                    | 30 000                        | IRB 58               |
| 12.700 (1/2)                 | 17.462 (11/16) | 15.88(.625) | 1                      | —                               | —      | —                       | —      | 6 350                     | 8 380                    | 30 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 19.05(.750) | 1                      | —                               | —      | —                       | —      | 7 840                     | 11 000                   | 30 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 6.35(.250)  | —                      | —                               | —      | —                       | —      | 5 260                     | 7 150                    | 12 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 9.52(.375)  | —                      | —                               | —      | —                       | —      | 8 150                     | 12 600                   | 12 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 11.13(.438) | —                      | 12.700                          | 12.689 | 17.472                  | 17.454 | 9 530                     | 15 300                   | 12 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 12.70(.500) | —                      | —                               | —      | —                       | —      | 10 800                    | 18 100                   | 12 000                        | IRB 58               |
| 12.700 (1/2)                 | 17.462 (11/16) | 15.88(.625) | —                      | —                               | —      | —                       | —      | 13 400                    | 23 700                   | 12 000                        | —                    |
| 12.700 (1/2)                 | 17.462 (11/16) | 19.05(.750) | —                      | —                               | —      | —                       | —      | 15 800                    | 29 300                   | 12 000                        | —                    |
| 12.700 (1/2)                 | 19.050 (3/4)   | 11.13(.438) | 1.3                    | —                               | —      | —                       | —      | 5 670                     | 6 120                    | 30 000                        | —                    |
| 12.700 (1/2)                 | 19.050 (3/4)   | 12.70(.500) | 1.3                    | —                               | —      | —                       | —      | 6 040                     | 6 650                    | 30 000                        | IRB 58               |
| 12.700 (1/2)                 | 19.050 (3/4)   | 15.88(.625) | 1.3                    | 12.700                          | 12.689 | 19.062                  | 19.041 | 8 830                     | 10 900                   | 30 000                        | —                    |
| 12.700 (1/2)                 | 19.050 (3/4)   | 19.05(.750) | 1.3                    | —                               | —      | —                       | —      | 11 100                    | 14 500                   | 30 000                        | —                    |
| 12.700 (1/2)                 | 19.050 (3/4)   | 15.88(.625) | —                      | —                               | —      | —                       | —      | 16 300                    | 23 500                   | 12 000                        | —                    |