P4S SERIES PRECISION BALL BEARINGS
for Machine Tool Spindle Applications

GREATER PRODUCTIVITY. STRONGER PERFORMANCE.
As a global leader in bearing technology with extensive experience in the machine tool industry, we understand the value of increasing productivity and performance.

Timken® P4S series ball bearings are made to withstand the most demanding requirements for precision, high speeds and rigidity. Their innovative technologies enhance service life and help extend machine uptime.

**Increased Uptime:** Our metallurgical expertise helps choose the best steel specifications to increase durability and bearing life. Increased load ratings and higher speed capabilities contribute to optimal bearing performance and can lengthen the time between scheduled maintenance.

**Smooth Operation:** Exceeds ISO and ABMA standards for low operating noise, reduced vibration and smooth operation.

**Availability:** EZ Machine Tool service provides access to hundreds of arrangements in popular sizes with express lead times.

**Strong Performance:** Compared to competitor bearings, Timken HX Series high-speed ISO 19 bearings offer similar internal geometry, speed, load rating and stiffness – with a larger bore size for better overall spindle stiffness.

**Precision Control:** Precise tolerances provide exceptional accuracy and control of machine tool spindles.

**Convenience:** Dual part numbering in Fafnir and ISO configurations.
The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance mechanical components, including bearings, belts, chain, gears and related mechanical power transmission products and services.


**Product Range:** Available in a wide variety of customizable configurations. Select contact angles between 15° and 25° to help meet your unique application requirements.

<table>
<thead>
<tr>
<th>Construction</th>
<th>Series</th>
<th>Bore Range</th>
<th>Od Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultra Light ISO 19 Series</td>
<td>2(3)MMX93XXXXXK</td>
<td>10-200 mm</td>
<td>22-280 mm</td>
</tr>
<tr>
<td>Extra Light ISO 10 Series</td>
<td>2(3)RMMX91XXXXXK</td>
<td>10-200 mm</td>
<td>26-310 mm</td>
</tr>
<tr>
<td>Light ISO 02 Series</td>
<td>2(3)MVMX200XXXXXK</td>
<td>10-230 mm</td>
<td>30-270 mm</td>
</tr>
<tr>
<td>Medium ISO 03 Series</td>
<td>2(3)MMX300XXXXXK</td>
<td>12-95 mm</td>
<td>37-200 mm</td>
</tr>
</tbody>
</table>

**EZ Interchange:** Easily interchangeable with other products, our EZ Machine Tool Service helps you quickly find equivalent substitutes. See your Timken sales engineer for special part numbers or additional assistance.

**EZ Interchange**
- **Description**: Interchange
- **Part No.**
- **Details**
  - **Ultra Light ISO 19 Series**
    - 93XXX
    - 719XX
    - 79
    - 719
    - B
    - 79
    - 619
    - 79
    - 79
    - 19
  - **Extra Light ISO 10 Series**
    - 91XXX
    - 720XX
    - 70
    - 72
    - 70
    - X
    - 70
    - 60
    - 70
    - 70
    - 1
  - **Light ISO 02 Series**
    - 20XX
    - 72
    - 72
    - 72
    - 72
    - 62
    - 62
    - 72
    - 2
  - **Medium ISO 03 Series**
    - 30XX
    - 73XX
  - **15° Contact Angle**
    - 2
    - C
    - C
    - C
    - C
    - 1
    - C
    - C
    - C
    - C
  - **25° Contact Angle**
    - 3
    - E
    - A5
    - AC
    - 3
    - E
    - E
    - A0
    - 2
  - **ISO P4 (ABEC 7) Precision**
    - MV
    - P4
    - P4
    - P4
    - 7
    - P4
    - A7
    - P4
    - P4
    - 4
  - **ISO P4S (ABEC 9/ABEC 7 Blend)**
    - MMV or MM
    - P4S
    - P4S
    - P3
    - P4A
    - P3
    - P4
  - **ISO P2 (ABEC 9) Precision**
    - MMK
    - P2
    - P2
    - R4A
    - 9
    - P2
    - P2 or A8
    - P2
    - P2
    - ABEC 9
  - **Ceramic Balls**
    - C
    - C
    - SN24
    - HC
    - AN3
    - S
    - HY
    - 5S
    - C
  - **Angular contact low shoulder on outer ring**
    - WI
    - –
    - B
    - –
    - D
    - E/3E
    - S
    - –
    - –
    - –
  - **Angular contact low shoulder on inner and outer ring**
    - HK
    - HK
    - RS
    - E
    - VE
    - SH
  - **Phenolic Cage**
    - CR
    - T
    - TR
    - –
    - CE
    - T
    - TA
    - PA
    - FT
    - T1
    - H
  - **Polyamide Cage**
    - PRL
    - PRL
    - TAN
    - –
    - P
    - TAN
    - M
    - S
    - FG
    - T2
  - **Two Close contact seals**
    - VV
    - VV
    - S
    - V1V
    - S
    - /S
    - 2KZ
    - RR
  - **Single Universal**
    - SU
    - SU
    - U
    - SU
    - G
    - U
    - SU
    - G
    - U
  - **Duplex Universal**
    - DU
    - DU
    - DU
    - DU
    - DG
    - DU
    - DU
    - Du
    - Du
  - **Triplex Universal**
    - TU
    - TU
    - TU
    - TU
    - TU
    - TU
    - TU
  - **Quadripulse Universal**
    - QU
    - QU
    - QU
    - QU
    - QU
    - QU
  - **Extra light**
    - D
    - D
    - DB
    - DB
    - DB
    - DB
    - DB
  - **Light**
    - L
    - L
    - L
    - L
    - L
    - L
    - L
    - GL
  - **Medium**
    - M
    - M
    - M
    - M
    - B
    - M
    - M
    - M
    - GN
  - **Heavy**
    - H
    - H
    - H
    - H
    - C
    - F
    - H
    - S
    - H
    - GM

**EZ Interchange**
- **Remarks**
  - **Hub high-speed sealed design**
  - **Hybrid designs with ceramic balls**
  - **Special contact angles**
  - **Universally ground matched sets**
  - **Range of preloads**

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