


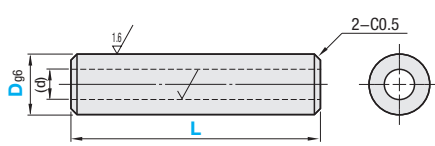
Hollow Rotary Shafts

Lightweight, Straight



| Type | Material | Surface Treatment |
|------|----------|----------------------------|
| PFR | S45C | Black Oxide |
| PPFR | | Electroless Nickel Plating |
| SPFR | SUS304 | - |

⊕ Circularity, Straightness, Perpendicularity **P820**



RoHS 10 ⊕ Surface treatment is not applied to the shaft ends.

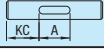
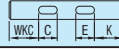
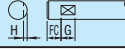

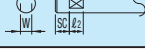
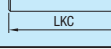
| Type | Part Number | | L | |
|---------------------|-------------|------------------|-------------|------|
| | Dg6 | 0.1mm Increment | (d) | |
| PFR PPFR SPFR | 10 | -0.005 -0.014 | 20.0~500.0 | 6 |
| | 12 | -0.006 | 30.0~600.0 | 6 |
| | 15 | -0.017 | 30.0~600.0 | 10 |
| | 20 | -0.007 | 40.0~600.0 | 11.7 |
| | 25 | -0.020 | 50.0~600.0 | 15.2 |
| | 30 | -0.020 | 60.0~600.0 | 16 |
| | 35 | -0.009 | 70.0~600.0 | 20.1 |
| | 40 | -0.025 | 80.0~600.0 | 22.7 |
| | 50 | -0.025 | 100.0~600.0 | 24 |

Ordering Example

Part Number - L
PFR20 - 300

Alterations

Part Number - L - (KC, WKC, FC--etc.)
SPFR30 - 150 - SC10

| Alterations | Keyway | Set Screw Flat | Wrench Flats | L Dimension Tolerance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|--|--|---|--|-------|---|-------|---|----|---|---|---|---|---|---|---|---|----|---|---|----|----|----|----|----|---|----|----|----|----|----|---|----|----|---|----|----|----|----|----|----|----|----|---|---|---|---|--|
| | • 1 Keyway: KC  • 2 Keyways: WKC  | • 1 Set Screw Flat: FC  • 2 Set Screw Flats: WFC  |  |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Code | KC, WKC | FC, WFC | SC | LKC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spec. | KC: Adds a keyway. [Ordering Code] KC50-A10 WKC: Adds two keyways. [Ordering Code] WKC50-C8-K40-E10 ⊕ Applicable when D≥30. ⊕ KC, A, WKC, C, K, E = 1mm Increment ⊕ KC, WKC, Ks=2 ⊕ KC+A+4≤L ⊕ WKC+C+K+E+6≤L ⊕ A, E, Cs100 ⊕ For Keyway Details, refer to P820 . ⊕ If 3 keyways are required, use both KC and WKC. | FC: Adds 1 set screw flat. [Ordering Code] FC10-G3 WFC: Adds 2 set screw flats. [Ordering Code] WFC10-J3-W10-V3 ⊕ FC, G, WFC, J, W, V = 1mm Increment ⊕ FC, WFC, Ws=2 ⊕ FC+G+4≤L ⊕ WFC+J+V+W+6≤L ⊕ G, J, Vs50 <table border="1" style="margin-left: 20px;"> <tr><th>D</th><th>H</th></tr> <tr><td>10-15</td><td>1</td></tr> <tr><td>20-40</td><td>2</td></tr> <tr><td>50</td><td>3</td></tr> </table> | D | H | 10-15 | 1 | 20-40 | 2 | 50 | 3 | Adds a wrench flat. SC = 1mm Increment ⊕ SCs=2 ⊕ SC+L+4≤L ⊕ W-M (N)≥2 for SCs=M(N)x3 <table border="1" style="margin-left: 20px;"> <tr><th>D</th><th>W</th><th>ℓ</th><th>D</th><th>W</th><th>ℓ</th></tr> <tr><td>10</td><td>8</td><td>8</td><td>30</td><td>27</td><td>15</td></tr> <tr><td>12</td><td>10</td><td>-</td><td>35</td><td>30</td><td>15</td></tr> <tr><td>15</td><td>13</td><td>-</td><td>40</td><td>36</td><td>-</td></tr> <tr><td>20</td><td>17</td><td>10</td><td>50</td><td>41</td><td>20</td></tr> <tr><td>25</td><td>22</td><td>-</td><td>-</td><td>-</td><td>-</td></tr> </table> | D | W | ℓ | D | W | ℓ | 10 | 8 | 8 | 30 | 27 | 15 | 12 | 10 | - | 35 | 30 | 15 | 15 | 13 | - | 40 | 36 | - | 20 | 17 | 10 | 50 | 41 | 20 | 25 | 22 | - | - | - | - | Changes L dimension tolerance. [Ordering Code] LKC ⊕ L<500→ L±0.05 L≥500→ L±0.1 |
| D | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-15 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20-40 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | W | ℓ | D | W | ℓ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 8 | 8 | 30 | 27 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 10 | - | 35 | 30 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 13 | - | 40 | 36 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 17 | 10 | 50 | 41 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 22 | - | - | - | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| D | PFR | | | | | | | PPFR | | | | | | | SPFR | | | | | | | |
|----|--------|-------|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--|
| | Min. L | L50.1 | L100.1 | L150.1 | L200.1 | L300.1 | L400.1 | Min. L | L50.1 | L100.1 | L150.1 | L200.1 | L300.1 | L400.1 | Min. L | L50.1 | L100.1 | L150.1 | L200.1 | L300.1 | L400.1 | |
| 10 | 50.0 | 100.0 | 150.0 | 200.0 | 300.0 | 400.0 | 600.0 | 50.0 | 100.0 | 150.0 | 200.0 | 300.0 | 400.0 | 600.0 | 50.0 | 100.0 | 150.0 | 200.0 | 300.0 | 400.0 | 600.0 | |
| 12 | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | |
| 30 | - | | | | | | | - | | | | | | | - | | | | | | | |
| 35 | - | | | | | | | - | | | | | | | - | | | | | | | |
| 40 | - | | | | | | | - | | | | | | | - | | | | | | | |
| 50 | - | | | | | | | - | | | | | | | - | | | | | | | |