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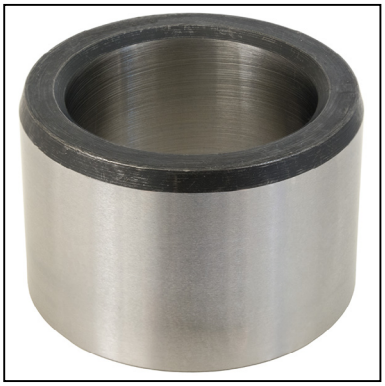
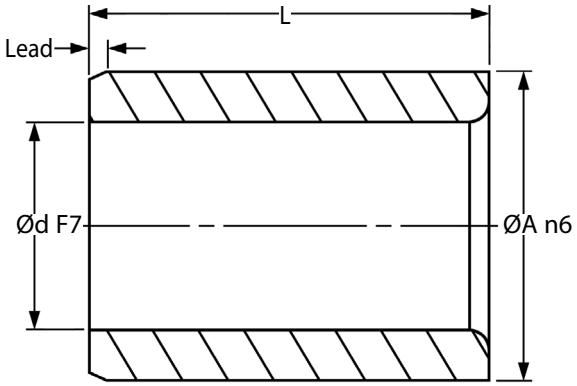
# MECHANICAL

**PP**

## Jig Bushes

Plain Type, Press Fit. BS 1098 Pt.2 1977 / DIN 179A / ISO 4247






| Part Number | Short Series L | ØA n6 | Ød F7 From | Up to | Part Number | Long Series L | ØA n6 | Ød F7 From | Up to | Part Number | Extra Long Series L | ØA n6 | Ød F7 From | Up to |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PP3A | 6 | 3 | - | 1.0 | PP3C | 9 | 3 | - | 1.0 | - | - | - | - | - |
| PP4A | 6 | 4 | 1.05 | 1.8 | PP4C | 9 | 4 | 1.05 | 1.8 | - | - | - | - | - |
| PP5A | 6 | 5 | 1.85 | 2.6 | PP5C | 9 | 5 | 1.85 | 2.6 | - | - | - | - | - |
| PP6B | 8 | 6 | 2.65 | 3.3 | PP6E | 12 | 6 | 2.65 | 3.3 | PP6F | 16 | 6 | 2.65 | 3.3 |
| PP7B | 8 | 7 | 3.40 | 4.0 | PP7E | 12 | 7 | 3.40 | 4.0 | PP7F | 16 | 7 | 3.40 | 4.0 |
| PP8B | 8 | 8 | 4.10 | 5.0 | PP8E | 12 | 8 | 4.10 | 5.0 | PP8F | 16 | 8 | 4.10 | 5.0 |
| PP10D | 10 | 10 | 5.10 | 6.0 | PP10F | 16 | 10 | 5.10 | 6.0 | PP10H | 20 | 10 | 5.10 | 6.0 |
| PP12D | 10 | 12 | 6.10 | 8.0 | PP12F | 16 | 12 | 6.10 | 8.0 | PP12H | 20 | 12 | 6.10 | 8.0 |
| PP15E | 12 | 15 | 8.10 | 10.0 | PP15H | 20 | 15 | 8.10 | 10.0 | PP15J | 25 | 15 | 8.10 | 10.0 |
| PP18E | 12 | 18 | 10.10 | 12.0 | PP18H | 20 | 18 | 10.10 | 12.0 | PP18J | 25 | 18 | 10.10 | 12.0 |
| PP22F | 16 | 22 | 12.10 | 15.0 | PP22K | 28 | 22 | 12.10 | 15.0 | PP22N | 36 | 22 | 12.10 | 15.0 |
| PP26F | 16 | 26 | 15.25 | 18.0 | PP26K | 28 | 26 | 15.25 | 18.0 | PP26N | 36 | 26 | 15.25 | 18.0 |
| PP30H | 20 | 30 | 18.25 | 22.0 | PP30N | 36 | 30 | 18.25 | 22.0 | PP30R | 45 | 30 | 18.25 | 22.0 |
| PP35H | 20 | 35 | 22.25 | 26.0 | PP35N | 36 | 35 | 22.25 | 26.0 | PP35R | 45 | 35 | 22.25 | 26.0 |
| PP42J | 25 | 42 | 26.25 | 30.0 | PP42R | 45 | 42 | 26.25 | 30.0 | PP42S | 56 | 42 | 26.25 | 30.0 |
| PP48J | 25 | 48 | 30.25 | 35.0 | PP48R | 45 | 48 | 30.25 | 35.0 | PP48S | 56 | 48 | 30.25 | 35.0 |
| PP55L | 30 | 55 | 35.50 | 42.0 | PP55S | 56 | 55 | 35.50 | 42.0 | PP55T | 67 | 55 | 35.50 | 42.0 |
| PP62L | 30 | 62 | 42.50 | 48.0 | PP62S | 56 | 62 | 42.50 | 48.0 | PP62T | 67 | 62 | 42.50 | 48.0 |

*Minimum order value of £50 applies*

### Standard Increment Bore Sizes

From 1.0mm to 3mm in steps of 0.05mm.
From 3.0mm to 14mm in steps of 0.10mm.
From 14.0mm to 33mm in steps of 0.25mm
(and including all 0.25mm and 0.75mm sizes).
From 33.0mm to 51mm in steps of 0.50mm.
From 51.0mm to 100mm in steps of 1.00mm.

Nitrided bushes for longer life giving a hardness of 67-69 Rockwell C are available at extra cost.

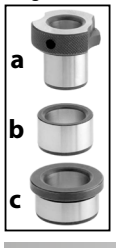
| Nominal Sizes Over | Up to | F7 Hole High+ | Low+ | n6 Shaft High+ | Low+ |
|---|---|---|---|---|---|
| - | 3 | 16 | 6 | 10 | 4 |
| 3 | 6 | 22 | 10 | 16 | 8 |
| 6 | 10 | 28 | 13 | 19 | 10 |
| 10 | 18 | 34 | 16 | 23 | 12 |
| 18 | 30 | 41 | 20 | 28 | 15 |
| 30 | 50 | 50 | 25 | 33 | 17 |
| 50 | 80 | 60 | 30 | 39 | 20 |
| 80 | 120 | 71 | 36 | 45 | 23 |

### Material

EN31 through hardened Steel, hardened to 58-62Rc. Concentricity: 0.02mm on drilled or ground bores up to 1.4mm.
Ordering example: **PP4A** - **1.05**
Bore Size required for order and delivery

### Also Available

Larger sizes available P.O.A. Imperial sizes for all types also available, P.O.A.




**(a) Fixed & Slip Renewable:** These two features are incorporated on one bush which is used in conjunction with liner bushes and is held in place by a lock screw, tenon or stop pin. The bush is a slide fit in its corresponding liner. The removable fixed feature of the bush is normally used on high production work, when the bush can be easily and quickly replaced with a minimum loss of production. The removable slip feature of the bush is used when more than one operation is carried out, when the bush is instantly removable after each operation.

**(b) Headless Liner Type:** This range is for use in conjunction with Renewable Fixed and Slip type bushes.

**(c) Headed Liner Type:** As above but headed. The shallow head can be left standing proud or countersunk flush.

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*Product information updated May 2017 and subject to change. Please click the product links for prices and availability.*
https://amironic.co.il/

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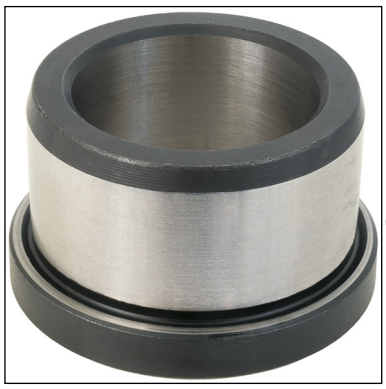
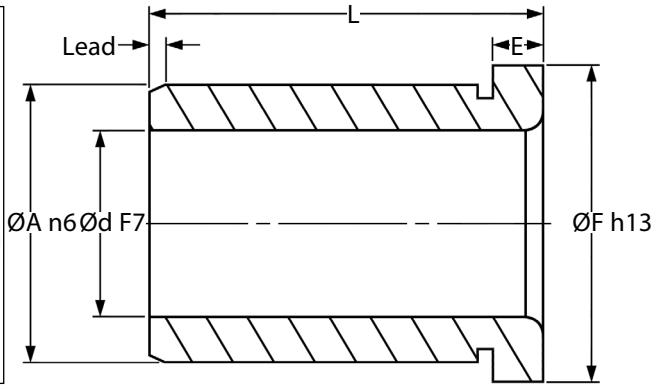
# MECHANICAL

**PH**

## Jig Bushes

Headed Type, Press Fit. BS 1098 Pt.2 1977 / ISO 4247 / DIN 172A






| Part Number | Short Series L | ØA n6 | ØF h13 | E | Ød F7 From | Up to | Part Number | Long Series L | ØA n6 | ØF h13 | E | Ød F7 From | Up to | Part Number | Extra Long Series L | ØA n6 | ØF h13 | E | Ød F7 From | Up to |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PH3A | 6 | 3 | 6 | 2.0 | - | 1.0 | PH3C | 9 | 3 | 6 | 2.0 | - | 1.0 | - | - | - | - | - | - | - |
| PH4A | 6 | 4 | 7 | 2.0 | 1.05 | 1.8 | PH4C | 9 | 4 | 7 | 2.0 | 1.05 | 1.8 | - | - | - | - | - | - | - |
| PH5A | 6 | 5 | 8 | 2.0 | 1.85 | 2.6 | PH5C | 9 | 5 | 8 | 2.0 | 1.85 | 2.6 | - | - | - | - | - | - | - |
| PH6B | 8 | 6 | 9 | 2.5 | 2.65 | 3.3 | PH6E | 12 | 6 | 9 | 2.5 | 2.65 | 3.3 | PH6F | 16 | 6 | 9 | 2.5 | 2.65 | 3.3 |
| PH7B | 8 | 7 | 10 | 2.5 | 3.40 | 4.0 | PH7E | 12 | 7 | 10 | 2.5 | 3.40 | 4.0 | PH7F | 16 | 7 | 10 | 2.5 | 3.40 | 4.0 |
| PH8B | 8 | 8 | 11 | 2.5 | 4.10 | 5.0 | PH8E | 12 | 8 | 11 | 2.5 | 4.10 | 5.0 | PH8F | 16 | 8 | 11 | 2.5 | 4.10 | 5.0 |
| PH10D | 10 | 10 | 13 | 3.0 | 5.10 | 6.0 | PH10F | 16 | 10 | 13 | 3.0 | 5.10 | 6.0 | PH10H | 20 | 10 | 13 | 3.0 | 5.10 | 6.0 |
| PH12D | 10 | 12 | 15 | 3.0 | 6.10 | 8.0 | PH12F | 16 | 12 | 15 | 3.0 | 6.10 | 8.0 | PH12H | 20 | 12 | 15 | 3.0 | 6.10 | 8.0 |
| PH15E | 12 | 15 | 18 | 3.0 | 8.10 | 10.0 | PH15H | 20 | 15 | 18 | 3.0 | 8.10 | 10.0 | PH15J | 25 | 15 | 18 | 3.0 | 8.10 | 10.0 |
| PH18E | 12 | 18 | 22 | 4.0 | 10.10 | 12.0 | PH18H | 20 | 18 | 22 | 4.0 | 10.10 | 12.0 | PH18J | 25 | 18 | 22 | 4.0 | 10.10 | 12.0 |
| PH22F | 16 | 22 | 26 | 4.0 | 12.10 | 15.0 | PH22K | 28 | 22 | 26 | 4.0 | 12.10 | 15.0 | PH22N | 36 | 22 | 26 | 4.0 | 12.10 | 15.0 |
| PH26F | 16 | 26 | 30 | 4.0 | 15.25 | 18.0 | PH26K | 28 | 26 | 30 | 4.0 | 15.25 | 18.0 | PH26N | 36 | 26 | 30 | 4.0 | 15.25 | 18.0 |
| PH30H | 20 | 30 | 34 | 5.0 | 18.25 | 22.0 | PH30N | 36 | 30 | 34 | 5.0 | 18.25 | 22.0 | PH30R | 45 | 30 | 34 | 5.0 | 18.25 | 22.0 |
| PH35H | 20 | 35 | 39 | 5.0 | 22.25 | 26.0 | PH35N | 36 | 35 | 39 | 5.0 | 22.25 | 26.0 | PH35R | 45 | 35 | 39 | 5.0 | 22.25 | 26.0 |
| PH42J | 25 | 42 | 46 | 5.0 | 26.25 | 30.0 | PH42R | 45 | 42 | 46 | 5.0 | 26.25 | 30.0 | PH42S | 56 | 42 | 46 | 5.0 | 26.25 | 30.0 |
| PH48J | 25 | 48 | 52 | 5.0 | 30.25 | 35.0 | PH48R | 45 | 48 | 52 | 5.0 | 30.25 | 35.0 | PH48S | 56 | 48 | 52 | 5.0 | 30.25 | 35.0 |
| PH55L | 30 | 55 | 59 | 5.0 | 35.50 | 42.0 | PH55S | 56 | 55 | 59 | 5.0 | 35.50 | 42.0 | PH55T | 67 | 55 | 59 | 5.0 | 35.50 | 42.0 |
| PH62L | 30 | 62 | 66 | 6.0 | 42.50 | 48.0 | PH62S | 56 | 62 | 66 | 6.0 | 42.50 | 48.0 | PH62T | 67 | 62 | 66 | 6.0 | 42.50 | 48.0 |

*Minimum order value of £50 applies*

### Standard Increment Bore Sizes

From 1.0mm to 3mm in steps of 0.05mm.
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Nitrided bushes for longer life giving a hardness of 67-69 Rockwell C are available at extra cost.

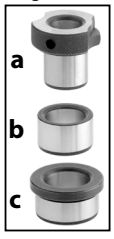
| Nominal Sizes Over | Up to | F7 Hole High+ | Low+ | n6 Shaft High+ | Low+ | h13 Shaft High+ | Low- |
|---|---|---|---|---|---|---|---|
| - | 3 | 16 | 6 | 10 | 4 | 0 | 140 |
| 3 | 6 | 22 | 10 | 16 | 8 | 0 | 180 |
| 6 | 10 | 28 | 13 | 19 | 10 | 0 | 220 |
| 10 | 18 | 34 | 16 | 23 | 12 | 0 | 270 |
| 18 | 30 | 41 | 20 | 28 | 15 | 0 | 330 |
| 30 | 50 | 50 | 25 | 33 | 17 | 0 | 390 |
| 50 | 80 | 60 | 30 | 39 | 20 | 0 | 460 |
| 80 | 120 | 71 | 36 | 45 | 23 | 0 | 540 |

### Material

EN31 through hardened Steel, hardened to 58-62Rc.
Ordering example: **PH18E** - **12.0**
Bore Size required
for order and delivery

### Also Available

Larger sizes available P.O.A. Imperial sizes for all types also available, P.O.A.

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