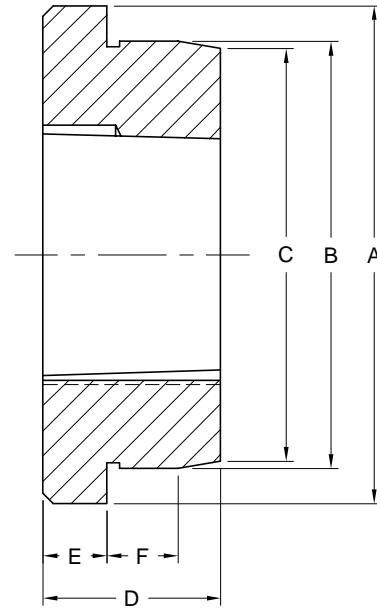


# Weld-On Hubs

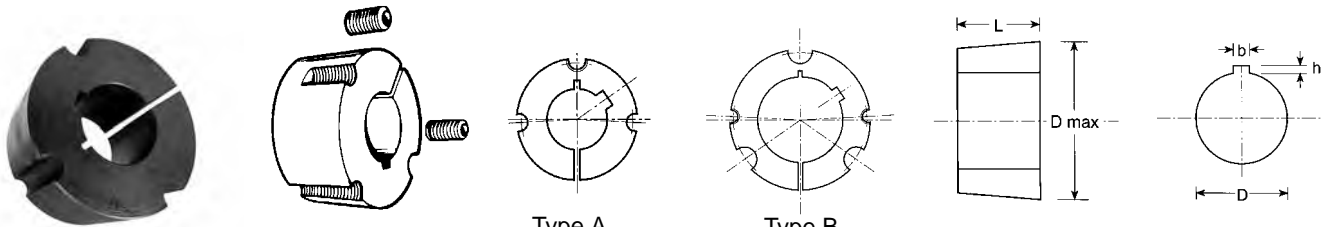
## TL Bushing Type



| Part No      | Bushing | Screw Size  | A   | B   | C   | D   | E  | F  |
|--------------|---------|-------------|-----|-----|-----|-----|----|----|
| WHTL1210     | 1210    | 3/8"-16TPI  | 73  | 60  | 58  | 25  | 9  | 10 |
| WHTL1610     | 1610    | 3/8"-16TPI  | 83  | 70  | 68  | 25  | 9  | 10 |
| WHTL1615     | 1615    | 3/8"-16TPI  | 83  | 70  | 68  | 38  | 16 | 11 |
| WHTL2012     | 2012    | 7/16"-14TPI | 96  | 90  | 88  | 32  | 10 | 12 |
| WHTL2517     | 2517    | 1/2"-13TPI  | 127 | 110 | 108 | 45  | 19 | 13 |
| WHTL2517-BSW | 2517    | 1/2"-12TPI  | 127 | 110 | 108 | 45  | 19 | 13 |
| WHTL3020     | 3020    | 5/8"-11TPI  | 152 | 130 | 125 | 51  | 24 | 18 |
| WHTL3030     | 3030    | 5/8"-11TPI  | 152 | 130 | 125 | 76  | 25 | 19 |
| WHTL3525-BSW | 3525    | 1/2"-12TPI  | 184 | 155 | 151 | 65  | 25 | 25 |
| WHTL3535     | 3535    | 1/2"-13TPI  | 184 | 155 | 151 | 89  | 32 | 25 |
| WHTL3535-BSW | 3535    | 1/2"-12TPI  | 184 | 155 | 151 | 89  | 32 | 25 |
| WHTL4040     | 4040    | 5/8"-11TPI  | 225 | 195 | 187 | 102 | 32 | 35 |
| WHTL4545     | 4545    | 3/4"-10TPI  | 254 | 220 | 213 | 114 | 38 | 40 |
| WHTL5050     | 5050    | 7/8"-9TPI   | 276 | 242 | 228 | 127 | 38 | 40 |

Note: BSW Types are made to European specs and will accept 1/2"-12 threads per inch. Material: St-50

# Taper Bushings & Keystock - Metric



Type A  
(1008 - 3030)

Type B  
(3535 - 5050)

Part No. Example: 2012-25mm

Dimensions in mm

| Size           | D mm<br>Bores Available  | D max | Bushing<br>Length | Set Screws     |        | Torque<br>Nm |
|----------------|--|-------|-------------------|----------------|--------|--------------|
|                |  |       |                   | Whitworth      | Length |              |
| 1008           | 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 22, (24), (25)                     | 35.0  | 22.3              | 1/4" x 20 TPI  | 13     | 5.7          |
| 1108           | 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 22, 24, 25, (28)                   | 38.0  | 22.3              | 1/4" x 20 TPI  | 13     | 5.7          |
| 1210           | 11, 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32                     | 47.5  | 25.4              | 3/8" x 16 TPI  | 16     | 20           |
| 1215           | 14, 19, 20, 24, 25, 28   | 47.5  | 38.1              | 3/8" x 16 TPI  | 16     | 20           |
| 1310           | 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, (35)                   | 50.5  | 25.4              | 3/8" X 16TPI   | 16     | 20           |
| 1610           | 12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, (42)       | 57.0  | 25.4              | 3/8" x 16 TPI  | 16     | 20           |
| 1615           | 14, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, (42)               | 57.0  | 38.1              | 3/8" x 16 TPI  | 16     | 20           |
| 2012           | 15, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50     | 70.0  | 31.8              | 7/16" x 14 TPI | 22     | 31           |
| 2517**         | 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60, 65 | 85.5  | 44.5              | 1/2" x 12 TPI  | 25     | 49           |
| 2517 AS*       | 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60, 65 | 85.5  | 44.5              | 1/2" x 13 UNC* | 25     | 49           |
| 3020           | 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75             | 108.0 | 50.8              | 5/8" x 11 TPI  | 32     | 92           |
| 3030           | 35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75                             | 108.0 | 76.2              | 5/8" x 11 TPI  | 38     | 92           |
| 3525<br>3535** | 35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75, 80, 85, 90                 | 127.0 | 88.9              | 1/2" x 12 TPI  | 44     | 115          |
| 3535 AS*       | 35, 38, 40, 42, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90                     | 127.0 | 88.9              | 1/2" x 13 UNC* | 44     | 115          |
| 4040           | 40, 42, 45, 48, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100                | 146.0 | 101.6             | 5/8" x 11 TPI  | 51     | 172          |
| 4545           | 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110                          | 162.0 | 114.3             | 3/4" x 10 TPI  | 57     | 195          |
| 5050           | 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125                       | 177.5 | 127.0             | 7/8" x 9 TPI   | 59     | 275          |

## Keyway Dimensions (per DIN 6885)

| Bore D     | Keyway Width b | Keyway Depth h |
|------------|----------------|----------------|
| 10 to 12   | 4              | 1.8            |
| 13 to 17   | 5              | 2.3            |
| 18 to 22   | 6              | 2.8            |
| 23 to 30   | 8              | 3.3            |
| 31 to 38   | 10             | 3.3            |
| 39 to 44   | 12             | 3.3            |
| 45 to 50   | 14             | 3.8            |
| 51 to 58   | 16             | 4.3            |
| 59 to 65   | 18             | 4.4            |
| 66 to 75   | 20             | 4.9            |
| 76 to 85   | 22             | 5.4            |
| 86 to 95   | 25             | 5.4            |
| 96 to 110  | 28             | 6.4            |
| 111 to 130 | 32             | 7.4            |

Dimensions in mm. Bores in parentheses with Shallow Keyway.

\*Denotes "AS" American Standard Thread Sizes - 1/2" x 13 UNC set screws for these sizes.

## Shallow Keyway Dimensions

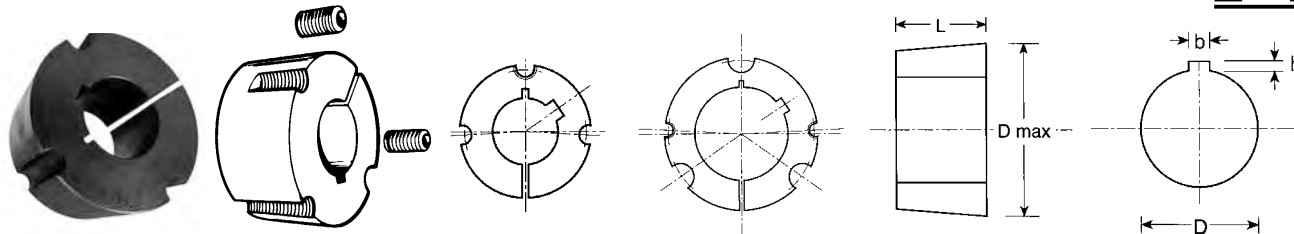
| Bore D | Keyway Width b | Keyway Depth h |
|--------|----------------|----------------|
| 25     | 8              | 1.30           |
| 28     | 8              | 2.30           |
| 32     | 10             | 3.30           |
| 35     | 10             | 3.30           |
| 40     | 12             | 3.30           |
| 42     | 12             | 2.20           |

## Metric Keystock (12" Length)

| Part No. | Size | Part No.   | Size  |
|----------|------|------------|-------|
| KS 4 x 4 | 4 mm | KS 8 x 8   | 8 mm  |
| KS 5 x 5 | 5 mm | KS 10 x 10 | 10 mm |
| KS 6 x 6 | 6 mm | KS 12 x 12 | 12 mm |
| KS 7 x 7 | 7 mm |            |       |

\*\*Bushing types 2517, 3525 and 3535 are made to "European" standards with 1/2" x 12tpi BSW set screws.

# Taper Bushings & Keystock - Inch



Type A  
(1008 - 3030)

Type B  
(3535 - 5050)

Part No. Example: 2012-3/4

Dimensions in inches

| Size           | D inch Bores Available  | D max | Bushing Length | Set Screws    |        | Torque Nm |
|----------------|---|-------|----------------|---------------|--------|-----------|
|                |   |       |                | Whitworth     | Length |           |
| 1008           | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, (15/16), (1)  | 1.38  | 0.88           | 1/4 x 20 TPI  | 0.51   | 5.7       |
| 1108           | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, (1-1/16), (1-1/8)   | 1.50  | 0.88           | 1/4 x 20 TPI  | 0.51   | 5.7       |
| 1210           | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4  | 1.87  | 1.00           | 3/8 x 16 TPI  | 0.63   | 20        |
| 1215           | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4  | 1.87  | 1.50           | 3/8 x 16 TPI  | 0.63   | 20        |
| 1310           | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8   | 1.99  | 1.00           | 3/8 x 16 TPI  | 0.63   | 20        |
| 1610           | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, (1-5/8)   | 2.24  | 1.00           | 3/8 x 16 TPI  | 0.63   | 20        |
| 1615           | 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, (1-5/8)   | 2.24  | 1.50           | 3/8 x 16 TPI  | 0.63   | 20        |
| 2012           | 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-11/16, 1-3/4, 1-7/8, (1-15/16), (2)   | 2.76  | 1.25           | 7/16 x 14 TPI | 0.87   | 31        |
| 2517**         | 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-11/16, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4, (2-3/8), (2-7/16), (2-1/2)  | 3.37  | 1.75           | 1/2 x 12 TPI  | 0.98   | 49        |
| 2517 AS*       | 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-11/16, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4, (2-3/8), (2-7/16), (2-1/2)  | 3.37  | 1.75           | 1/2 x 13 UNC* | 0.98   | 49        |
| 3020           | 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-11/16, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4, 2-3/8, 2-7/16, 2-1/2, 2-5/8, 2-11/16, 2-3/4, (2-7/8), (2-15/16), (3)               | 4.25  | 2.00           | 5/8 x 11 TPI  | 1.26   | 92        |
| 3030           | 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-5/8, 1-11/16, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4, 2-3/8, 2-7/16, 2-1/2, 2-5/8, 2-11/16, 2-3/4, (2-7/8), (2-15/16), (3)               | 4.25  | 3.00           | 5/8 x 11 TPI  | 1.50   | 92        |
| 3525<br>3535** | 1-1/2, 1-5/8, 1-11/16, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4, 2-3/8, 2-7/16, 2-1/2, 2-5/8, 2-11/16, 2-3/4, 2-7/8, 2-15/16, 3, 3-1/8, 3-3/16, 3-1/4, (3-3/8), (3-7/16), (3-1/2) | 5.00  | 3.50           | 1/2 x 12 TPI  | 1.73   | 115       |
| 3535 AS*       | 1-1/2, 1-5/8, 1-11/16, 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4, 2-3/8, 2-7/16, 2-1/2, 2-5/8, 2-11/16, 2-3/4, 2-7/8, 2-15/16, 3, 3-1/8, 3-3/16, 3-1/4, (3-3/8), (3-7/16), (3-1/2) | 5.00  | 3.50           | 1/2 x 13 UNC* | 1.73   | 115       |
| 4040           | 1-3/4, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4, 2-3/8, 2-7/16, 2-1/2, 2-5/8, 2-11/16, 2-3/4, 2-7/8, 2-15/16, 3, 3-1/8, 3-3/16, 3-1/4, 3-3/8, 3-7/16, 3-1/2                              | 5.75  | 4.00           | 5/8 x 11 TPI  | 2.01   | 172       |
| 4545           | 2-1/4, 2-3/8, 2-7/16, 2-1/2, 2-5/8, 2-11/16, 2-3/4, 2-7/8, 2-15/16, 3, 3-1/8, 3-3/16, 3-1/4, 3-3/8, 3-7/16, 3-1/2, 3-3/4, 3-15/16, 4  | 6.38  | 4.50           | 3/4 x 10 TPI  | 2.24   | 195       |
| 5050           | 2-3/4, 2-7/8, 2-15/16, 3, 3-1/8, 3-3/16, 3-1/4, 3-3/8, 3-7/16, 3-1/2, 3-3/4, 3-15/16, 4, 4-3/16, 4-1/4, 4-7/16, 4-1/2, 4-3/4, 4-15/16, 5  | 6.99  | 5.00           | 7/8 x 9 TPI   | 2.32   | 275       |

## Keyway Dimensions (per DIN 6885)

| Bore D           | Keyway Width b | Keyway Depth h |
|------------------|----------------|----------------|
| 1/2              | 1/8            | 1/16           |
| 5/8 to 7/8       | 3/16           | 3/32           |
| 15/16 to 1-1/4   | 1/4            | 1/8            |
| 1-5/16 to 1-3/8  | 5/16           | 5/32           |
| 1-7/16 to 1-3/4  | 3/8            | 3/16           |
| 1-13/16 to 2-1/4 | 1/2            | 1/4            |
| 2-5/16 to 2-3/4  | 5/8            | 5/16           |
| 2-13/16 to 3-1/4 | 3/4            | 3/8            |
| 3-5/16 to 3-3/4  | 7/8            | 7/16           |
| 3-7/8 to 4-1/2   | 1              | 1/2            |
| 4-7/8 to 5       | 1-1/4          | 5/8            |

## Shallow Keyway Dimensions

| Bore D          | Keyway Width b | Keyway Depth h |
|-----------------|----------------|----------------|
| 15/16 to 1-1/8  | 1/4            | 1/16           |
| 1-9/16 to 1-5/8 | 3/8            | 1/8            |
| 1-15/16 to 2    | 1/2            | 3/16           |
| 2-5/16 to 2-1/2 | 5/8            | 1/4            |
| 2-7/8 to 3      | 3/4            | 1/4            |
| 3-3/8 to 3-1/2  | 7/8            | 3/8            |

## Inch Keystock (12" Length)

| Part No.       | Size | Part No.       | Size |
|----------------|------|----------------|------|
| KS 1/8 x 1/8   | 1/8  | KS 3/8 x 3/8   | 3/8  |
| KS 3/16 x 3/16 | 3/16 | KS 7/16 x 7/16 | 7/16 |
| KS 1/4 x 1/4   | 1/4  | KS 1/2 x 1/2   | 1/2  |
| KS 5/16 x 5/16 | 5/16 |                |      |

Dimensions in mm except for Bores and Keyway. Bores in parentheses with Shallow Keyway.

\*\*Bushing types 2517, 3525 and 3535 are made to "European" standards with 1/2" x 12tpi BSW set screws.

To order, specify: 1008 - xx, where xx denotes bore size.

\*Denotes "AS" American Standard Thread Sizes - 1/2" x 13 UNC set screw for these sizes.