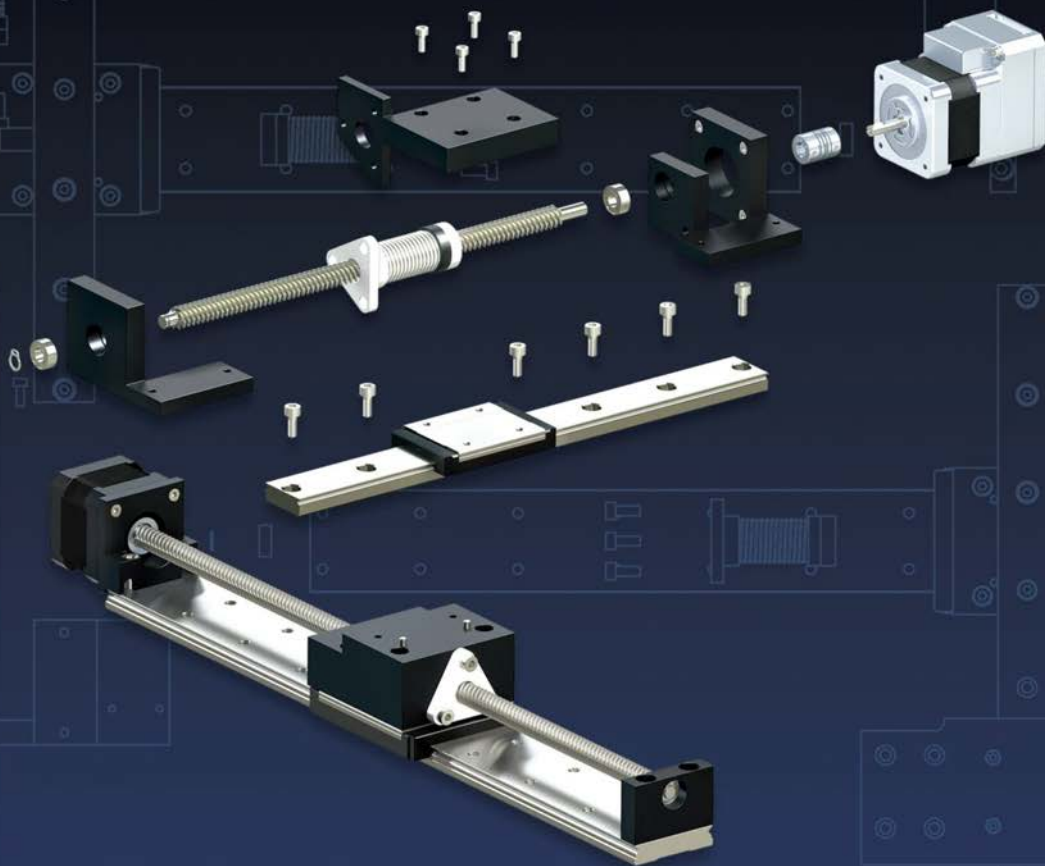




# RELIANCE<sup>TM</sup>

P R E C I S I O N



Precise Motion Control Solutions  
*Machine Screws, Dowel Pins and Hardware*



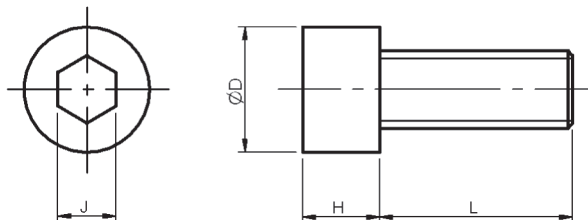
## Section Contents

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All dimensions in mm  
 Thread specification: BS3643 Pt2  
 Tolerance class: 6g  
 Material: A2-70 Austenitic<sup>(1)</sup>  
               A4-70 Austenitic<sup>(2)</sup>  
 Stainless steel to ISO 3506-1

**Associated Products**  
 Disc springs: [page 13-15](#)  
 Nuts: [page 13-16](#)  
 Washers: [page 13-17](#)



### Part number selection table

| Example Part No:- <b>S - M3 - 12 - A47</b> |             |        |       |       |                          |                          |
|--------------------------------------------|-------------|--------|-------|-------|--------------------------|--------------------------|
| Basic Part No                              | Thread Size | ØD max | H max | J nom | Standard Length          | Matl                     |
| <b>S</b>                                   | <b>M1.6</b> | 3.0    | 1.6   | 1.5   | <b>3 4 5 6 8</b>         | <b>A27<sup>(1)</sup></b> |
|                                            | <b>M2</b>   | 3.8    | 2.0   | 1.5   | <b>4 5 6 8</b>           |                          |
|                                            | <b>M2.5</b> | 4.5    | 2.5   | 2.0   | <b>5 6 8 10</b>          | <b>A47<sup>(2)</sup></b> |
|                                            | <b>M3</b>   | 5.5    | 3.0   | 2.5   | <b>6 8 10 12 16 20</b>   |                          |
|                                            | <b>M4</b>   | 7.0    | 4.0   | 3.0   | <b>8 10 12 16 20 25</b>  |                          |
|                                            | <b>M5</b>   | 8.5    | 5.0   | 4.0   | <b>10 12 16 20 25 30</b> |                          |
|                                            | <b>M6</b>   | 10.0   | 6.0   | 5.0   | <b>12 16 20 25 30 40</b> |                          |

### **i** Features and options

- Plain socket head cap screw to ISO 4762
- 700 MPa minimum tensile strength
- Rolled thread for excellent surface finish, superior thread strength and increased hardness properties
- Slotted head available
- Imperial sizes available
- Alternative materials available

### **? Technical support**

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)
- Material properties - see [page T13-2](#)



### Associated Products

Disc springs: page 13-15

Nuts: page 13-16

Washers: page 13-17

All dimensions in mm

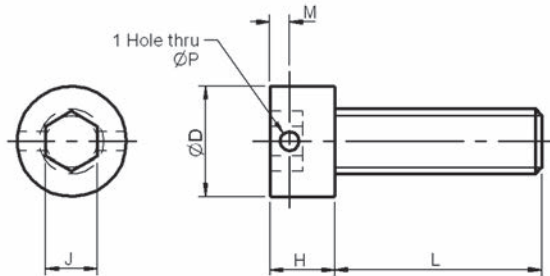
Thread specification: BS3643 Pt2

Tolerance class: 6g

Material: A2-70 Austenitic<sup>(1)</sup>

A4-70 Austenitic<sup>(2)</sup>

Stainless steel to ISO 3506-1



### Part number selection table

| Example Part No:- <b>S - M3 - 12 - A47 - XD</b> |             |        |       |       |        |         |                          |                          |
|-------------------------------------------------|-------------|--------|-------|-------|--------|---------|--------------------------|--------------------------|
| Basic Part No                                   | Thread Size | ØD max | H max | J nom | M ±0.1 | ØP ±0.1 | Standard Length          | Matl                     |
| <b>S</b>                                        | <b>M1.6</b> | 3.0    | 1.6   | 1.5   | 0.5    | 0.4     | <b>3 4 5 6</b>           | <b>A27<sup>(1)</sup></b> |
|                                                 | <b>M2</b>   | 3.8    | 2.0   | 1.5   | 0.7    | 0.6     | <b>4 5 6 8</b>           | <b>A47<sup>(2)</sup></b> |
|                                                 | <b>M2.5</b> | 4.5    | 2.5   | 2.0   | 0.75   | 0.7     | <b>5 6 8 10</b>          |                          |
|                                                 | <b>M3</b>   | 5.5    | 3.0   | 2.5   | 0.9    | 0.8     | <b>6 8 10 12 16 20</b>   |                          |
|                                                 | <b>M4</b>   | 7.0    | 4.0   | 3.0   | 1.3    | 1.0     | <b>8 10 12 16 20 25</b>  |                          |
|                                                 | <b>M5</b>   | 8.5    | 5.0   | 4.0   | 1.5    | 1.5     | <b>10 12 16 20 25 30</b> |                          |
|                                                 | <b>M6</b>   | 10.0   | 6.0   | 5.0   | 1.8    | 1.5     | <b>12 16 20 25 30 40</b> |                          |

### **i** Features and options

- Plain socket head cap screw to ISO 4762 with cross-drilled head to allow fastener retention by wire locking
- 700 MPa minimum tensile strength
- Rolled thread for excellent surface finish, superior thread strength and increased hardness properties
- Imperial sizes available
- Alternative materials available

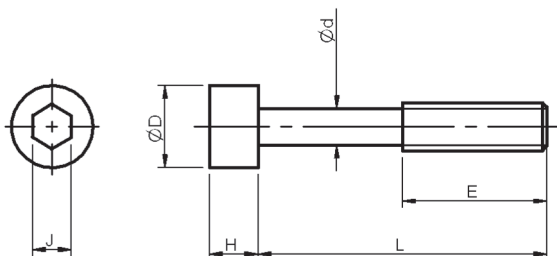
### **?** Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)
- Material properties - see [page T13-2](#)



All dimensions in mm  
 Thread specification: BS3643 Pt2  
 Tolerance class: 6g  
 Material: A2-70 Austenitic<sup>(1)</sup>  
 A4-70 Austenitic<sup>(2)</sup>  
 Stainless steel to ISO 3506-1

**Associated Products**  
 Disc springs: [page 13-15](#)  
 Nuts: [page 13-16](#)  
 Washers: [page 13-17](#)



### Part number selection table

| Example Part No:- <b>S - M3 - 16 - A47 - CA</b> |             |        |       |       |         |        |                 |                          |
|-------------------------------------------------|-------------|--------|-------|-------|---------|--------|-----------------|--------------------------|
| Basic Part No                                   | Thread Size | ØD max | H max | J nom | Ød ±0.1 | E ±0.1 | Standard Length | Matl                     |
| <b>S</b>                                        | <b>M2</b>   | 3.8    | 2.0   | 1.5   | 1.4     | 4.0    | <b>10</b>       | <b>A27<sup>(1)</sup></b> |
|                                                 | <b>M2.5</b> | 4.5    | 2.5   | 2.0   | 1.8     | 5.0    | <b>12</b>       | <b>A47<sup>(2)</sup></b> |
|                                                 | <b>M3</b>   | 5.5    | 3.0   | 2.5   | 2.2     | 6.0    | <b>16 20</b>    |                          |
|                                                 | <b>M4</b>   | 7.0    | 4.0   | 3.0   | 3.0     | 8.0    | <b>20 25</b>    |                          |
|                                                 | <b>M5</b>   | 8.5    | 5.0   | 4.0   | 3.8     | 10.0   | <b>25 30</b>    |                          |
|                                                 | <b>M6</b>   | 10.0   | 6.0   | 5.0   | 4.5     | 12.0   | <b>30 40</b>    |                          |

### **i** Features and options

- Socket head cap screw to ISO 4762 with plain shank length for captive assembly of the screw to prevent fastener loss
- Ideal for service covers
- Rolled thread for excellent surface finish, superior thread strength and increased hardness properties
- Slotted head available on sized M2 to M5
- Imperial sizes available
- Alternative materials available

### **? Technical support**

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)
- Material properties - see [page T13-2](#)



### Associated Products

Disc springs: [page 13-15](#)

Nuts: [page 13-16](#)

Washers: [page 13-17](#)

All dimensions in mm

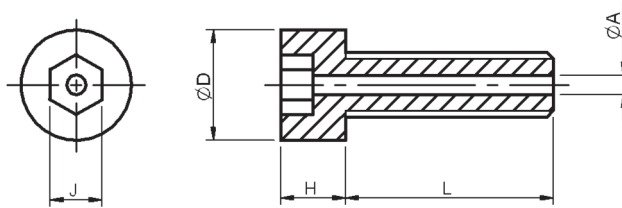
Thread specification: BS3643 Pt2

Tolerance class: 6g

Material: A2-70 Austenitic<sup>(1)</sup>

A4-70 Austenitic<sup>(2)</sup>

Stainless steel to ISO 3506-1



### Part number selection table

| Example Part No:- <b>S - M3 - 12 - A47 - AD</b> |             |        |       |       |          |                          |                          |
|-------------------------------------------------|-------------|--------|-------|-------|----------|--------------------------|--------------------------|
| Basic Part No                                   | Thread Size | ØD max | H max | J nom | ØA ±0.05 | Standard Length          | Matl                     |
| <b>S</b>                                        | <b>M1.6</b> | 3.0    | 1.6   | 1.5   | 0.6      | <b>3 4 5 6</b>           | <b>A27<sup>(1)</sup></b> |
|                                                 | <b>M2</b>   | 3.8    | 2.0   | 1.5   | 0.7      | <b>4 5 6 8</b>           |                          |
|                                                 | <b>M2.5</b> | 4.5    | 2.5   | 2.0   | 0.8      | <b>5 6 8 10</b>          | <b>A47<sup>(2)</sup></b> |
|                                                 | <b>M3</b>   | 5.5    | 3.0   | 2.5   | 1.0      | <b>6 8 10 12 16 20</b>   |                          |
|                                                 | <b>M4</b>   | 7.0    | 4.0   | 3.0   | 1.0      | <b>8 10 12 16 20 25</b>  |                          |
|                                                 | <b>M5</b>   | 8.5    | 5.0   | 4.0   | 1.5      | <b>10 12 16 20 25 30</b> |                          |
|                                                 | <b>M6</b>   | 10.0   | 6.0   | 5.0   | 1.5      | <b>12 16 20 25 30 40</b> |                          |

### **i** Features and options

- Socket head cap screw to ISO 4762 drilled through on axis to assist cavity ventilation in vacuum assemblies
- Rolled thread for excellent surface finish, superior thread strength and increased hardness properties
- Slotted head available
- Imperial sizes available
- Alternative materials available

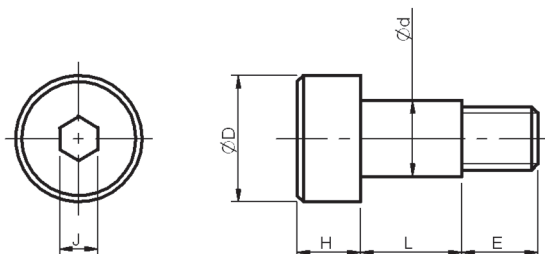
### **?** Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)
- Material properties - see [page T13-2](#)



All dimensions in mm  
Material: 303 Stainless steel  
Tolerance class: 6g

**Associated Products**  
Disc springs: [page 13-15](#)  
Nuts: [page 13-16](#)  
Washers: [page 13-17](#)



### Part number selection table

| Example Part No:- <b>MSS2 - M6 - 35</b> |             |                        |    |          |   |           |                            |             |
|-----------------------------------------|-------------|------------------------|----|----------|---|-----------|----------------------------|-------------|
| Basic Part Number                       | Thread Size | Ød<br>+0.000<br>-0.025 | ØD | J<br>nom | H | E<br>±0.1 | Length L<br>+0.05<br>-0.00 | Length Code |
| MSS2                                    | M3          | 3.987                  | 6  | 2        | 3 | 4         | 4.013                      | 1           |
|                                         |             |                        |    |          |   |           | 5.013                      | 2           |
|                                         |             |                        |    |          |   |           | 6.013                      | 3           |
|                                         |             |                        |    |          |   |           | 8.013                      | 4           |
|                                         |             |                        |    |          |   |           | 10.013                     | 5           |
|                                         | M4          | 4.987                  | 8  | 2.5      | 4 | 5         | 4.013                      | 6           |
|                                         |             |                        |    |          |   |           | 5.013                      | 7           |
|                                         |             |                        |    |          |   |           | 6.013                      | 8           |
|                                         |             |                        |    |          |   |           | 8.013                      | 9           |
|                                         |             |                        |    |          |   |           | 10.013                     | 10          |
|                                         |             |                        |    |          |   |           | 12.013                     | 11          |
|                                         |             |                        |    |          |   |           | 14.013                     | 12          |
|                                         |             |                        |    |          |   |           | 16.013                     | 13          |
|                                         |             |                        |    |          |   |           | 20.013                     | 14          |
|                                         |             |                        |    |          |   |           | 25.013                     | 15          |
|                                         |             |                        |    |          |   |           | 30.013                     | 16          |
|                                         | M5          | 5.987                  | 10 | 3        | 5 | 6         | 4.013                      | 17          |
|                                         |             |                        |    |          |   |           | 5.013                      | 18          |
|                                         |             |                        |    |          |   |           | 6.013                      | 19          |
|                                         |             |                        |    |          |   |           | 8.013                      | 20          |
|                                         |             |                        |    |          |   |           | 10.013                     | 21          |
|                                         |             |                        |    |          |   |           | 12.013                     | 22          |
|                                         |             |                        |    |          |   |           | 14.013                     | 23          |
|                                         |             |                        |    |          |   |           | 16.013                     | 24          |
|                                         |             |                        |    |          |   |           | 20.013                     | 25          |
|                                         |             |                        |    |          |   |           | 25.013                     | 26          |
|                                         |             |                        |    |          |   |           | 30.013                     | 27          |





| Basic Part Number | Thread Size | Ød<br>+0.000<br>-0.025 | ØD | J<br>nom | H | E<br>±0.1 | Length L<br>+0.05<br>-0.00 | Length Code |  |  |  |  |
|-------------------|-------------|------------------------|----|----------|---|-----------|----------------------------|-------------|--|--|--|--|
| MSS2              | M6          | 7.987                  | 12 | 4        | 6 | 11        | 6.013                      | 28          |  |  |  |  |
|                   |             |                        |    |          |   |           | 8.013                      | 29          |  |  |  |  |
|                   |             |                        |    |          |   |           | 10.013                     | 30          |  |  |  |  |
|                   |             |                        |    |          |   |           | 12.013                     | 31          |  |  |  |  |
|                   |             |                        |    |          |   |           | 16.013                     | 32          |  |  |  |  |
|                   |             |                        |    |          |   |           | 20.013                     | 33          |  |  |  |  |
|                   |             | 9.987                  |    |          |   |           | 8.013                      | 34          |  |  |  |  |
|                   |             |                        |    |          |   |           | 10.013                     | 35          |  |  |  |  |
|                   |             |                        |    |          |   |           | 12.013                     | 36          |  |  |  |  |
|                   |             |                        |    |          |   |           | 16.013                     | 37          |  |  |  |  |
|                   | M8          | 9.987                  | 14 | 5        | 7 | 12        | 8.013                      | 38          |  |  |  |  |
|                   |             |                        |    |          |   |           | 10.013                     | 39          |  |  |  |  |
|                   |             |                        |    |          |   |           | 12.013                     | 40          |  |  |  |  |
|                   |             |                        |    |          |   |           | 16.013                     | 41          |  |  |  |  |
|                   | M10         | 11.987                 | 20 | 6        | 8 | 16        | 12.013                     | 42          |  |  |  |  |
|                   |             |                        |    |          |   |           | 16.013                     | 43          |  |  |  |  |
|                   |             |                        |    |          |   |           | 20.013                     | 44          |  |  |  |  |
|                   |             |                        |    |          |   |           | 25.013                     | 45          |  |  |  |  |

### **i** Features and options

- Socket head screw with accurate diameter shoulder for precision assemblies
- May be used to replace components such as shafts, pivots, pins and guides
- Used for linkages and stationary guides
- Slotted head and Phillips head available
- Imperial sizes available
- Alternative materials available (416)  
add -4 to the end of the part number
- Alternative lengths available

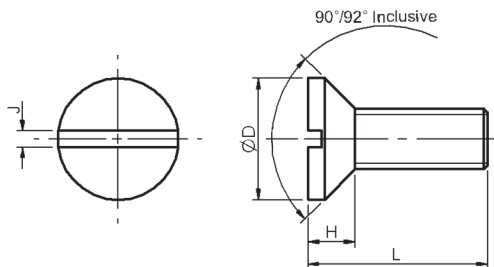
### **?** Technical support

- ISO metric screw threads, limits and tolerances  
- see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)
- Material properties - see [page T13-2](#)



All dimensions in mm  
 Thread specification: BS3643 Pt2  
 Head specification: BS4183  
 Tolerance class: 6g  
 Material: Stainless steel 300 series

**Associated Products**  
 Disc springs: [page 13-15](#)  
 Nuts: [page 13-16](#)  
 Washers: [page 13-17](#)



### Part number selection table

| Example Part No:- <b>K - M3 - 12</b> |             |        |       |       |                                 |
|--------------------------------------|-------------|--------|-------|-------|---------------------------------|
| Basic Part No                        | Thread Size | ØD max | H max | J nom | Standard Length                 |
| <b>K</b>                             | <b>M2</b>   | 4.4    | 1.20  | 0.63  | <b>3 4 5 6 8 10 12 16 20</b>    |
|                                      | <b>M2.5</b> | 5.5    | 1.50  | 0.73  | <b>5 6 8 10 12 16 20 25</b>     |
|                                      | <b>M3</b>   | 6.3    | 1.65  | 0.93  | <b>5 6 8 10 12 16 20 25 30</b>  |
|                                      | <b>M4</b>   | 8.4    | 2.20  | 1.13  | <b>6 8 10 12 16 20 25 30 35</b> |
|                                      | <b>M5</b>   | 10.0   | 2.50  | 1.38  | <b>8 10 12 16 20 25 30 35</b>   |
|                                      | <b>M6</b>   | 12.0   | 3.00  | 1.78  | <b>10 12 16 20 25 30 35</b>     |

### **i** Features and options

- Imperial sizes available
- Alternative materials available

### **?** Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)



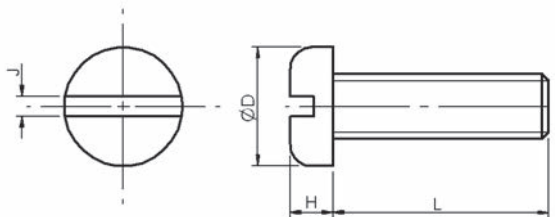
### Associated Products

Disc springs: [page 13-15](#)

Nuts: [page 13-16](#)

Washers: [page 13-17](#)

All dimensions in mm  
Thread specification: BS3643 Pt2  
Head specification: BS4183  
Tolerance class: 6g  
Material: Stainless steel 300 series



### Part number selection table

| Example Part No:- |             |        |       |       | P - M3 - 12     |   |   |   |   |    |    |    |    |    |       |
|-------------------|-------------|--------|-------|-------|-----------------|---|---|---|---|----|----|----|----|----|-------|
| Basic Part No     | Thread Size | ØD max | H max | J nom | Standard Length |   |   |   |   |    |    |    |    |    |       |
| P                 | M2          | 4.0    | 1.2   | 0.63  | 3               | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 20 |    |       |
|                   | M2.5        | 5.0    | 1.5   | 0.73  |                 |   | 5 | 6 | 8 | 10 | 12 | 16 | 20 | 25 |       |
|                   | M3          | 6.0    | 1.8   | 0.93  |                 |   | 5 | 6 | 8 | 10 | 12 | 16 | 20 | 25 | 30    |
|                   | M4          | 8.0    | 2.4   | 1.13  |                 |   |   | 6 | 8 | 10 | 12 | 16 | 20 | 25 | 30 35 |
|                   | M5          | 10.0   | 3.0   | 1.38  |                 |   |   |   | 8 | 10 | 12 | 16 | 20 | 25 | 30 35 |
|                   | M6          | 12.0   | 3.6   | 1.78  |                 |   |   |   |   | 10 | 12 | 16 | 20 | 25 | 30 35 |

### **i** Features and options

- Imperial sizes available
- Alternative materials available

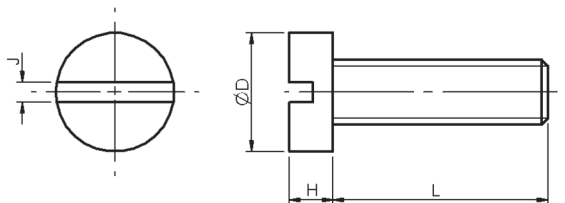
### **?** Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)



All dimensions in mm  
 Thread specification: BS3643 Pt2  
 Head specification: BS4183  
 Tolerance class: 6g  
 Material: Stainless steel 300 series

**Associated Products**  
 Disc springs: [page 13-15](#)  
 Nuts: [page 13-16](#)  
 Washers: [page 13-17](#)



### Part number selection table

| Example Part No:- |             |        |       |       |                 |   |   |   |   |    |    |    |    |    |    |    |  |  | C - M3 - 12 |  |  |  |  |  |  |  |  |  |
|-------------------|-------------|--------|-------|-------|-----------------|---|---|---|---|----|----|----|----|----|----|----|--|--|-------------|--|--|--|--|--|--|--|--|--|
| Basic Part No     | Thread Size | ØD max | H max | J nom | Standard Length |   |   |   |   |    |    |    |    |    |    |    |  |  |             |  |  |  |  |  |  |  |  |  |
| C                 | M2          | 3.8    | 1.3   | 0.63  | 3               | 4 | 5 | 6 | 8 | 10 | 12 | 16 | 20 |    |    |    |  |  |             |  |  |  |  |  |  |  |  |  |
|                   | M2.5        | 4.5    | 1.6   | 0.73  |                 |   | 5 | 6 | 8 | 10 | 12 | 16 | 20 | 25 |    |    |  |  |             |  |  |  |  |  |  |  |  |  |
|                   | M3          | 5.5    | 2.0   | 0.93  |                 |   | 5 | 6 | 8 | 10 | 12 | 16 | 20 | 25 | 30 |    |  |  |             |  |  |  |  |  |  |  |  |  |
|                   | M4          | 7.0    | 2.6   | 1.13  |                 |   |   | 6 | 8 | 10 | 12 | 16 | 20 | 25 | 30 | 35 |  |  |             |  |  |  |  |  |  |  |  |  |
|                   | M5          | 8.5    | 3.3   | 1.38  |                 |   |   |   | 8 | 10 | 12 | 16 | 20 | 25 | 30 | 35 |  |  |             |  |  |  |  |  |  |  |  |  |
|                   | M6          | 10.0   | 3.9   | 1.78  |                 |   |   |   |   | 10 | 12 | 16 | 20 | 25 | 30 | 35 |  |  |             |  |  |  |  |  |  |  |  |  |

### **i** Features and options

- Imperial sizes available
- Alternative materials available

### **?** Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)



### Associated Products

Gears: [page 4-1](#)

Reli-a-Flex® couplings: [page 8-6](#)

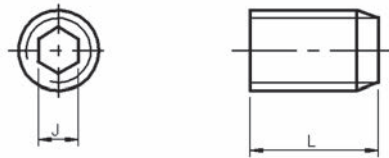
All dimensions in mm

Thread specification: BS3643 Pt2

Tolerance class: 6g

Material: Stainless steel

Manufactured to: BS EN ISO 4029



### Part number selection table

| Example Part No:- <b>SS - M4 - 12</b> |             |       |                  |   |   |   |   |   |    |    |    |       |
|---------------------------------------|-------------|-------|------------------|---|---|---|---|---|----|----|----|-------|
| Basic Part Number                     | Thread Size | J nom | Standard Lengths |   |   |   |   |   |    |    |    |       |
| SS                                    | M2          | 0.9   | 2                | 3 | 4 | 5 | 6 | 8 | 10 |    |    |       |
|                                       | M2.5        | 1.3   |                  | 3 | 4 | 5 | 6 | 8 | 10 |    |    |       |
|                                       | M3          | 1.5   |                  | 3 | 4 | 5 | 6 | 8 | 10 | 12 |    |       |
|                                       | M4          | 2     |                  |   | 4 | 5 | 6 | 8 | 10 | 12 | 16 |       |
|                                       | M5          | 2.5   |                  |   |   | 5 | 6 | 8 | 10 | 12 | 16 | 20    |
|                                       | M6          | 3     |                  |   |   |   | 6 | 8 | 10 | 12 | 16 | 20 25 |

### **i** Features and options

- Used for quick, permanent location of gears, collars and pulleys on shafts
- Suitable for high torque transmission
- Imperial sizes available
- Alternative materials available

### **?** Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)



# M2 - M6

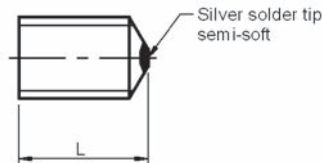
# Solder Tip Set Screws

All dimensions in mm  
Thread specification: BS3643 Pt2  
Tolerance class: 6g  
Material: Stainless steel 300 series with silver solder tip

## Associated Products

Gears: [page 4-1](#)

Couplings: [page 8-1](#)



## Part number selection table

| Example Part No:- <b>SGSS - M6 - 17</b> |             |       |                  |             |
|-----------------------------------------|-------------|-------|------------------|-------------|
| Basic Part Number                       | Thread Size | J nom | Standard Lengths | Length Code |
| SGSS                                    | M2          | 0.9   | 3                | <b>1</b>    |
|                                         |             |       | 4                | <b>2</b>    |
|                                         |             |       | 5                | <b>3</b>    |
|                                         |             |       | 6                | <b>4</b>    |
|                                         | M3          | 1.5   | 3                | <b>5</b>    |
|                                         |             |       | 4                | <b>6</b>    |
|                                         |             |       | 5                | <b>7</b>    |
|                                         |             |       | 6                | <b>8</b>    |
|                                         | M4          | 2     | 4                | <b>9</b>    |
|                                         |             |       | 6                | <b>10</b>   |
|                                         |             |       | 10               | <b>11</b>   |
|                                         |             |       | 14               | <b>12</b>   |
|                                         | M5          | 2.5   | 6                | <b>13</b>   |
|                                         |             |       | 10               | <b>14</b>   |
|                                         |             |       | 14               | <b>15</b>   |
|                                         |             |       | 20               | <b>16</b>   |
|                                         | M6          | 3     | 6                | <b>17</b>   |
|                                         |             |       | 10               | <b>18</b>   |
|                                         |             |       | 16               | <b>19</b>   |
|                                         |             |       | 25               | <b>20</b>   |

## Features and options

- Stainless steel set screw with semi-soft silver solder tip
- Prevents shaft marking
- Imperial sizes available

## Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)

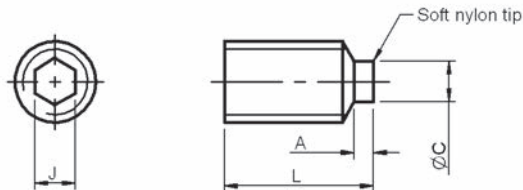


### Associated Products

Gears: [page 4-1](#)

Couplings: [page 8-1](#)

All dimensions in mm  
Thread specification: BS3643 Pt2  
Tolerance class: 6g  
Material: Stainless steel screw  
Nylon insert



### Part number selection table

| Example Part No:- <b>NMSS - M5 - 16</b> |             |     |     |       |                  |             |
|-----------------------------------------|-------------|-----|-----|-------|------------------|-------------|
| Basic Part Number                       | Thread Size | ØC  | A   | J nom | Standard Lengths | Length Code |
| NMSS                                    | M2          | 0.8 | 0.8 | 0.9   | 3.8              | 1           |
|                                         |             |     |     |       | 4.8              | 2           |
|                                         |             |     |     |       | 5.8              | 3           |
|                                         |             |     |     |       | 6.8              | 4           |
|                                         | M3          | 1.6 | 0.8 | 1.5   | 3.8              | 5           |
|                                         |             |     |     |       | 4.8              | 6           |
|                                         |             |     |     |       | 5.8              | 7           |
|                                         |             |     |     |       | 6.8              | 8           |
|                                         | M4          | 2.4 | 1.2 | 2     | 5.2              | 9           |
|                                         |             |     |     |       | 7.2              | 10          |
|                                         |             |     |     |       | 11.2             | 11          |
|                                         |             |     |     |       | 15.2             | 12          |
|                                         | M5          | 2.4 | 1.2 | 2.5   | 7.2              | 13          |
|                                         |             |     |     |       | 11.2             | 14          |
|                                         |             |     |     |       | 15.2             | 15          |
|                                         |             |     |     |       | 21.2             | 16          |
|                                         | M6          | 3.2 | 1.6 | 3     | 7.6              | 17          |
|                                         |             |     |     |       | 11.6             | 18          |
|                                         |             |     |     |       | 17.6             | 19          |
|                                         |             |     |     |       | 26.6             | 20          |

### **i** Features and options

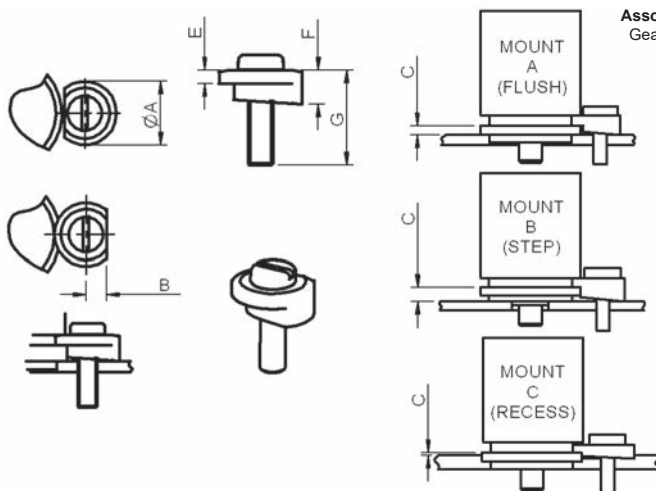
- Stainless steel set screw with nylon tip insert
- Used to prevent shaft marking
- Self locking
- Full face contact
- Imperial sizes available

### **?** Technical support

- ISO metric screw threads, limits and tolerances - see [page T13-1](#)
- Torque and tension guidelines - see [page T13-1](#)



All dimensions in mm  
 General tolerances  $\pm 0.13$  mm  
 Material: Stainless steel clamp  
 Nylon locking insert



**Associated Products**  
 Gearboxes: [page 3-1](#)

**Part number selection table**

| Part Number            | Mount Type | Height C<br>±0.08 | Flat B | Lip E<br>±0.08 | Height F | Length G<br>+0.0/-0.8 | Thread Size | O/D ØA<br>+0.00/-0.13 |
|------------------------|------------|-------------------|--------|----------------|----------|-----------------------|-------------|-----------------------|
| <a href="#">SQM-6</a>  | A & C      | 0.79              | 3.18   | 1.02           | 1.80     | 7.0                   | M3 x 0.5    | 9.90                  |
| <a href="#">SQM-7</a>  | A          | 1.57              |        | 1.02           | 2.59     | 9.5                   |             |                       |
| <a href="#">SQM-8</a>  |            | 1.57              |        | 1.27           | 2.84     |                       |             |                       |
| <a href="#">SQM-9</a>  |            | 1.57              |        | 1.60           | 3.18     |                       |             |                       |
| <a href="#">SQM-10</a> |            | 1.98              |        | 1.60           | 3.58     |                       |             |                       |
| <a href="#">SQM-11</a> |            | 2.36              |        | 1.02           | 3.38     |                       |             |                       |
| <a href="#">SQM-12</a> |            | 2.36              |        | 1.27           | 3.63     |                       |             |                       |
| <a href="#">SQM-13</a> |            | 2.36              |        | 1.60           | 3.96     |                       |             |                       |
| <a href="#">SQM-14</a> | B          | 3.18              |        | 1.27           | 4.45     | 11.0                  |             |                       |
| <a href="#">SQM-15</a> |            | 3.96              |        | 1.02           | 4.98     |                       |             |                       |
| <a href="#">SQM-16</a> |            | 5.72              |        | 1.60           | 7.32     |                       |             |                       |
| <a href="#">SQM-17</a> | A          | 6.35              |        | 1.60           | 7.92     | 15.0                  |             |                       |

### **i** Features and options

- Ideal for use with resolvers, encoders and potentiometers
- Imperial sizes available
- Self locking
- Quick releasing





## Associated Products

Shafts: [page 11-2](#)

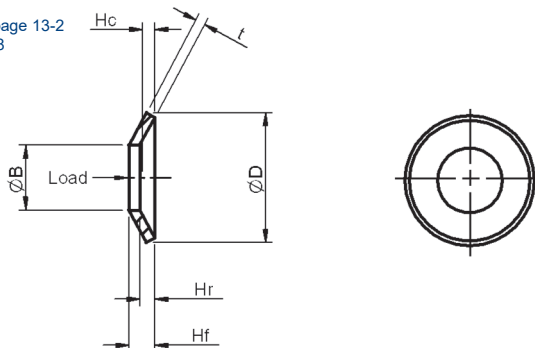
Bearings: [page 12-2](#)

Socket head cap screws: [page 13-2](#)

Machine screws: [page 13-8](#)

Nuts: [page 13-16](#)

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Stainless steel X12CrNi 17 7  
Manufactured to: DIN2093



## Part number selection table

| Example Part No:- <b>BW - M6</b> |            |      |      |                   |                |                |                                  |                             |
|----------------------------------|------------|------|------|-------------------|----------------|----------------|----------------------------------|-----------------------------|
| Basic Part Number                | Screw Size | ØD   | ØB   | t                 | Free Height Hf | Ref. Height Hr | Compressed Height Hc (75% Defl.) | Force to Compress to Hc (N) |
| <b>BW</b>                        | <b>M4</b>  | 8.0  | 4.2  | 0.40              | 0.60           | 0.20           | 0.45                             | 193                         |
|                                  | <b>M5</b>  | 10.0 | 5.2  | 0.50              | 0.75           | 0.25           | 0.56                             | 300                         |
|                                  | <b>M6</b>  | 12.5 | 6.2  | 0.70              | 0.95           | 0.25           | 0.76                             | 503                         |
|                                  | <b>M7</b>  | 14.0 | 7.2  | 0.80              | 1.10           | 0.30           | 0.87                             | 735                         |
|                                  | <b>M8</b>  | 16.0 | 8.2  | 0.90              | 1.25           | 0.35           | 0.99                             | 934                         |
|                                  | <b>M10</b> | 20.0 | 10.2 | 1.10              | 1.55           | 0.45           | 1.21                             | 1403                        |
|                                  | <b>M11</b> | 22.5 | 11.2 | 1.25 <sup>1</sup> | 1.65           | 0.40           | 1.35                             | 1411                        |
|                                  | <b>M12</b> | 25.0 | 12.2 | 1.50 <sup>1</sup> | 1.90           | 0.40           | 1.60                             | 1944                        |

<sup>1</sup> Material: stainless steel X7CrNiAl 17 7

## **i** Features and options

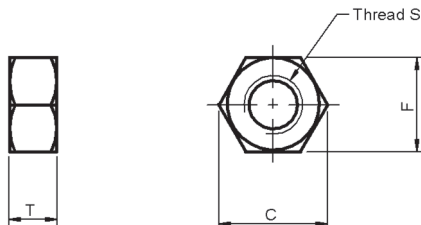
- For use where controlled axial force is required
- Good for bearing pre-load configurations
- Imperial sizes available



All dimensions in mm  
 General tolerances  $\pm 0.13$  mm  
 Material: Stainless steel  
 Thread: BS3692, DIN 934

**Associated Products**

Disc springs: [page 13-15](#)  
 Plain socket head cap screws: [page 13-2](#)  
 Pan head machine screws: [page 13-9](#)  
 Cheese head machine screws: [page 13-10](#)  
 Washers: [page 13-17](#)

**Part number selection table**

| Example Part No:- <b>HN - M3</b> |               |       |       |       |
|----------------------------------|---------------|-------|-------|-------|
| Basic Part Number                | Thread Size S | T max | F max | C nom |
| <b>HN</b>                        | <b>M1.6</b>   | 1.3   | 3.2   | 3.4   |
|                                  | <b>M2</b>     | 1.6   | 4.0   | 4.6   |
|                                  | <b>M2.5</b>   | 2.0   | 5.0   | 5.8   |
|                                  | <b>M3</b>     | 2.4   | 5.5   | 6.4   |
|                                  | <b>M4</b>     | 3.2   | 7.0   | 8.1   |
|                                  | <b>M5</b>     | 4.0   | 8.0   | 9.2   |
|                                  | <b>M6</b>     | 5.0   | 10.0  | 11.5  |

**Product options**

- Imperial sizes available



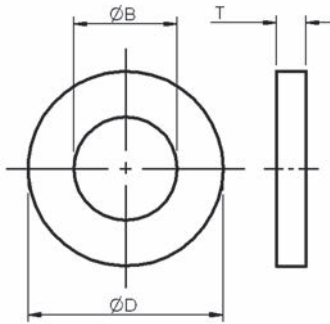
## Associated Products

Screws from: page 13-2

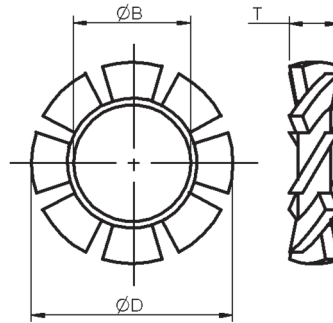
Nuts: page 13-16

Disc springs: page 13-15

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Stainless steel



Plain Washers



Tooth Lock Washers

## Part number selection tables

| Example Part No:- <b>PW - M3</b> |             |        |        |       |
|----------------------------------|-------------|--------|--------|-------|
| Basic Part Number                | Thread Size | ØD max | ØB min | T nom |
| <b>PW</b>                        | <b>M1.6</b> | 4.0    | 1.7    | 0.3   |
|                                  | <b>M2</b>   | 5.0    | 2.2    | 0.4   |
|                                  | <b>M2.5</b> | 6.5    | 2.7    | 0.6   |
|                                  | <b>M3</b>   | 7.0    | 3.2    | 0.6   |
|                                  | <b>M4</b>   | 9.0    | 4.3    | 0.9   |
|                                  | <b>M5</b>   | 10.0   | 5.3    | 1.1   |
|                                  | <b>M6</b>   | 12.5   | 6.4    | 1.8   |

| Example Part No:- <b>ETW - M3</b> |             |        |        |       |
|-----------------------------------|-------------|--------|--------|-------|
| Basic Part Number                 | Thread Size | ØD max | ØB max | T nom |
| <b>ETW</b>                        | <b>M2</b>   | 4.5    | 2.2    | 0.9   |
|                                   | <b>M3</b>   | 6.0    | 3.2    | 1.2   |
|                                   | <b>M4</b>   | 8.0    | 4.3    | 1.5   |
|                                   | <b>M5</b>   | 10.0   | 5.3    | 1.8   |
|                                   | <b>M6</b>   | 11.0   | 6.4    | 2.1   |

## **i** Product options

- Imperial sizes available

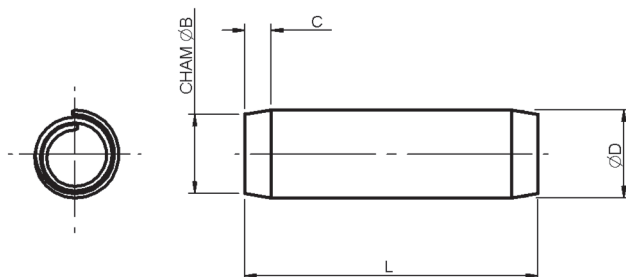


Ø0.8 - Ø3.0mm

# Coiled Pins

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Chrome stainless steel AISI 420  
Finish: Pickled and oiled

**Associated Products**  
Pin hub gears: [page 4-13](#)  
Shaft collars: [page 11-3](#)



## Part number selection table

| Example Part No:- <b>MSP - 1.5 - 6 - MCP</b> |               |            |             |               |                |                           |
|----------------------------------------------|---------------|------------|-------------|---------------|----------------|---------------------------|
| Basic Part Number                            | Actual Dia ØD | Nom Dia    | Cham Dia ØB | Cham Length C | Ideal Hole Dia | Standard Lengths          |
| <b>MSP</b>                                   | 0.85/0.91     | <b>0.8</b> | 0.75        | 0.30          | 0.80/0.84      | <b>4 5 6 8</b>            |
|                                              | 1.05/1.15     | <b>1.0</b> | 0.95        | 0.30          | 1.00/1.04      | <b>4 5 6 8 10 12</b>      |
|                                              | 1.62/1.73     | <b>1.5</b> | 1.40        | 0.50          | 1.50/1.60      | <b>5 6 8 10 12 14 16</b>  |
|                                              | 2.13/2.25     | <b>2.0</b> | 1.90        | 0.70          | 1.99/2.10      | <b>6 8 10 12 14 16 18</b> |
|                                              | 2.65/2.78     | <b>2.5</b> | 2.40        | 0.70          | 2.49/2.60      | <b>10 12 14 16 18</b>     |
|                                              | 3.15/3.30     | <b>3.0</b> | 2.90        | 0.90          | 2.99/3.10      | <b>14 16 18 20</b>        |

## **i** Features and options

- Coiled steel pin for location and alignment
- Suitable for locating Reliance's gears on ground shaft
- Imperial sizes available
- Alternative materials available



## Associated Products

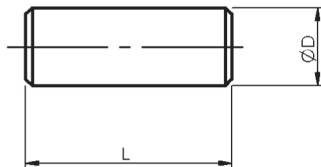
Pin hub gears: [page 4-13](#)

Shaft collars: [page 11-3](#)

All dimensions in mm

General tolerances  $\pm 0.13$  mm

Material: Stainless steel 300 series



## Part number selection table

| Example Part No:- |                    |               |                                |
|-------------------|--------------------|---------------|--------------------------------|
| D 020 - 10        |                    |               |                                |
| Basic Part Number | ØD<br>$\pm 0.0025$ | Diameter Code | Standard Lengths               |
|                   |                    |               | $\pm 0.25$                     |
| D                 | 1.00               | 010           | 3 4 5 6 8 10 12 14             |
|                   | 1.50               | 015           | 3 4 5 6 8 10 12 14 16 18       |
|                   | 2.00               | 020           | 3 4 5 6 8 10 12 14 16 18 20 22 |
|                   | 2.50               | 025           | 3 4 5 6 8 10 12 14 16 18 20 22 |
|                   | 3.00               | 030           | 5 6 8 10 12 14 16 18 20 22 25  |
|                   | 4.00               | 040           | 10 12 14 16 18 20 22 25        |
|                   | 5.00               | 050           | 12 14 16 18 20 22 25           |
|                   | 6.00               | 060           | 14 16 18 20 22 25              |

## **i** Features and options

- Precision stainless steel dowel pin, suitable for accurate location and alignment
- Imperial sizes available
- Alternative materials available

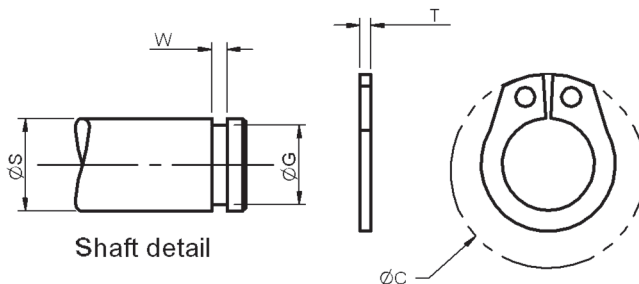


# To suit 3 - 12 mm Shafts

## External Circlips

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Stainless steel

Associated Products  
Shafts: page 11-2  
Bearings: page 12-2



### Part number selection table

| Example Part No:- <b>D1400 - 0060 - SS</b> |                        |             |              |                    |              |                |           |
|--------------------------------------------|------------------------|-------------|--------------|--------------------|--------------|----------------|-----------|
| Basic Part Number                          | Nominal Shaft Dia (ØS) | Dia Code    | Circlip      |                    | Groove       |                | Mati      |
|                                            |                        |             | Thickness T  | Clearance Dia (ØC) | Width W      | Dia ØG         |           |
| <b>D1400</b>                               | 3                      | <b>0030</b> | 0.40<br>0.35 | 7.00               | 0.64<br>0.50 | 2.80<br>2.76   | <b>SS</b> |
|                                            | 4                      | <b>0040</b> | 0.40<br>0.35 | 8.60               | 0.64<br>0.50 | 3.80<br>3.75   |           |
|                                            | 5                      | <b>0050</b> | 0.60<br>0.55 | 10.30              | 0.84<br>0.70 | 4.80<br>4.75   |           |
|                                            | 6                      | <b>0060</b> | 0.70<br>0.65 | 11.70              | 0.94<br>0.80 | 5.70<br>5.65   |           |
|                                            | 8                      | <b>0080</b> | 0.80<br>0.75 | 14.70              | 1.04<br>0.90 | 7.60<br>7.54   |           |
|                                            | 10                     | <b>0100</b> | 1.00<br>0.94 | 17.00              | 1.24<br>1.10 | 9.60<br>9.54   |           |
|                                            | 12                     | <b>0120</b> | 1.00<br>0.94 | 19.00              | 1.24<br>1.10 | 11.50<br>11.39 |           |

### **i** Features and options

- Used to axially secure components, such as bearings on shafts
- Imperial sizes available
- Alternative materials available

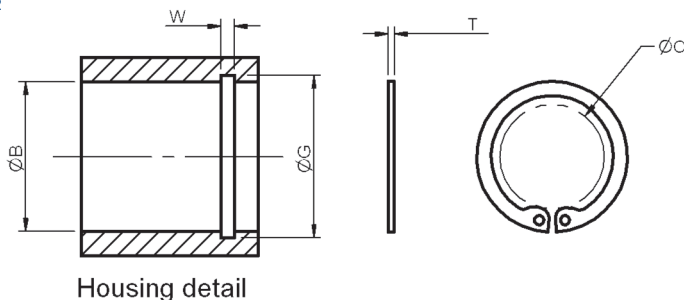


## Associated Products

Shafts: page 11-2

Bearings: page 12-2

All dimensions in mm  
General tolerances  $\pm 0.13$  mm  
Material: Stainless steel



## Part number selection table

| Example Part No:- <b>D1300 - 0200 - SS</b> |                       |             |              |                    |              |                |           |
|--------------------------------------------|-----------------------|-------------|--------------|--------------------|--------------|----------------|-----------|
| Basic Part Number                          | Nominal Bore Dia (ØB) | Dia Code    | Circlip      |                    | Groove       |                | Matl      |
|                                            |                       |             | Thickness T  | Clearance Dia (ØC) | Width W      | Dia ØG         |           |
| <b>D1300</b>                               | 12                    | <b>0120</b> | 1.00<br>0.94 | 5.70               | 1.24<br>1.10 | 12.61<br>12.50 | <b>SS</b> |
|                                            | 15                    | <b>0150</b> | 1.00<br>0.94 | 8.30               | 1.24<br>1.10 | 15.81<br>15.70 |           |
|                                            | 16                    | <b>0160</b> | 1.00<br>0.94 | 9.20               | 1.24<br>1.10 | 16.91<br>16.80 |           |
|                                            | 19                    | <b>0190</b> | 1.00<br>0.94 | 11.80              | 1.24<br>1.10 | 20.13<br>20.00 |           |
|                                            | 20                    | <b>0200</b> | 1.00<br>0.94 | 12.60              | 1.24<br>1.10 | 21.13<br>21.00 |           |
|                                            | 22                    | <b>0220</b> | 1.00<br>0.94 | 14.60              | 1.24<br>1.10 | 23.13<br>23.00 |           |
|                                            | 24                    | <b>0240</b> | 1.20<br>1.14 | 16.40              | 1.44<br>1.30 | 25.41<br>25.20 |           |
|                                            | 28                    | <b>0280</b> | 1.20<br>1.14 | 19.80              | 1.44<br>1.30 | 29.61<br>29.40 |           |
|                                            | 30                    | <b>0300</b> | 1.20<br>1.14 | 21.80              | 1.44<br>1.30 | 31.65<br>31.40 |           |

## i Features and options

- Used to axially secure components, such as bearings in housings
- Imperial sizes available
- Alternative materials available



|                                                                                     |                                                       |           |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|-----------|
|                                                                                     | <i>Introduction to Reliance</i>                       | <i>i</i>  |
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|                                                |    |
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