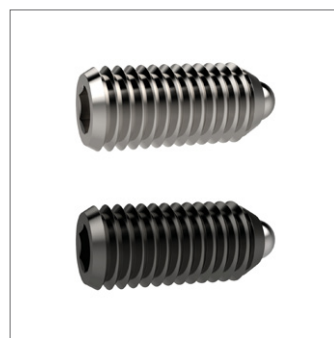
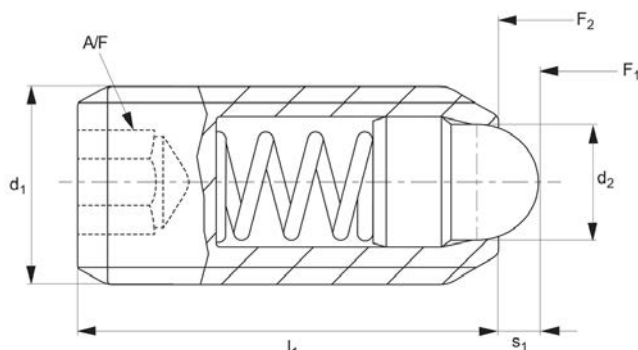


# Spring Plungers with round-ended pin & hex. socket

## Spring Plunger & Detent Pins



**31600**

SPRING PLUNGER & DETENT PINS

### Material

#### Free cutting steel type-

Body: free cutting steel, blackened.

Pin: free cutting steel, hardened, blackened.

Spring: stainless steel.

#### Stainless steel type-

Body: stainless steel 1.4305 (AISI 303).

Pin: stainless steel 1.4305 (AISI 303).

Spring: stainless steel.

### Technical Notes

These spring plungers may be used for locating, for applying pressure or lifting off.

Temperature range max. 250° C. Spring load \* = statistical average value.

### Tips

#### Spring load identifier:

Normal spring load - no marking.

Increased spring load - body marked with two lines.

Special types available on request.

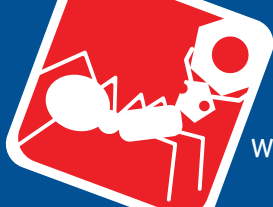
### Important Notes

All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

| Order No.          | Material  | Spring load | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | Stroke s <sub>1</sub> | A/F  | Weight<br>g |
|--------------------|-----------|-------------|----------------|----------------|----------------|--------------------------------------|--------------------------------------|-----------------------|------|-------------|
| <b>31600.W0104</b> | Steel     | Normal      | M 4            | 1.8            | 12             | 4.5                                  | 12.5                                 | 1.5                   | 2.0  | 0.6         |
| <b>31600.W0105</b> | Steel     | Normal      | M 5            | 2.4            | 14             | 5.0                                  | 13.0                                 | 2.0                   | 2.5  | 1.3         |
| <b>31600.W0106</b> | Steel     | Normal      | M 6            | 2.7            | 15             | 6.0                                  | 17.0                                 | 2.0                   | 3.0  | 1.9         |
| <b>31600.W0108</b> | Steel     | Normal      | M 8            | 3.8            | 18             | 16.0                                 | 33.0                                 | 2.0                   | 4.0  | 4.2         |
| <b>31600.W0110</b> | Steel     | Normal      | M10            | 4.5            | 23             | 19.0                                 | 42.0                                 | 2.5                   | 5.0  | 8.5         |
| <b>31600.W0112</b> | Steel     | Normal      | M12            | 6.2            | 26             | 22.0                                 | 57.0                                 | 3.5                   | 6.0  | 13.0        |
| <b>31600.W0116</b> | Steel     | Normal      | M16            | 8.5            | 33             | 38.0                                 | 78.0                                 | 4.5                   | 8.0  | 32.0        |
| <b>31600.W0120</b> | Steel     | Normal      | M20            | 10.0           | 43             | 39.0                                 | 81.0                                 | 6.5                   | 10.0 | 67.0        |
| <b>31600.W0124</b> | Steel     | Normal      | M24            | 13.0           | 48             | 72.0                                 | 155.0                                | 8.0                   | 12.0 | 106.0       |
| <b>31600.W0146</b> | Steel     | Increased   | M 6            | 2.7            | 15             | 11.0                                 | 25.0                                 | 2.0                   | 3.0  | 2.0         |
| <b>31600.W0148</b> | Steel     | Increased   | M 8            | 3.8            | 18             | 23.0                                 | 59.0                                 | 2.0                   | 4.0  | 4.2         |
| <b>31600.W0150</b> | Steel     | Increased   | M10            | 4.5            | 23             | 20.0                                 | 54.0                                 | 2.5                   | 5.0  | 8.5         |
| <b>31600.W0152</b> | Steel     | Increased   | M12            | 6.2            | 26             | 38.0                                 | 96.0                                 | 3.5                   | 6.0  | 13.0        |
| <b>31600.W0156</b> | Steel     | Increased   | M16            | 8.5            | 33             | 50.0                                 | 100.0                                | 4.5                   | 8.0  | 32.0        |
| <b>31600.W0160</b> | Steel     | Increased   | M20            | 10.0           | 43             | 52.0                                 | 133.0                                | 6.5                   | 10.0 | 67.0        |
| <b>31600.W0164</b> | Steel     | Increased   | M24            | 13.0           | 48             | 91.0                                 | 223.0                                | 8.0                   | 12.0 | 106.0       |
| <b>31600.W0304</b> | Stainless | Normal      | M 4            | 1.8            | 12             | 4.5                                  | 12.5                                 | 1.5                   | 2.0  | 0.6         |
| <b>31600.W0305</b> | Stainless | Normal      | M 5            | 2.4            | 14             | 5.0                                  | 13.0                                 | 2.0                   | 2.5  | 1.3         |
| <b>31600.W0306</b> | Stainless | Normal      | M 6            | 2.7            | 15             | 6.0                                  | 17.0                                 | 2.0                   | 3.0  | 1.9         |
| <b>31600.W0308</b> | Stainless | Normal      | M 8            | 3.8            | 18             | 16.0                                 | 33.0                                 | 2.0                   | 4.0  | 4.2         |
| <b>31600.W0310</b> | Stainless | Normal      | M10            | 4.5            | 23             | 19.0                                 | 42.0                                 | 2.5                   | 5.0  | 8.5         |
| <b>31600.W0312</b> | Stainless | Normal      | M12            | 6.2            | 26             | 22.0                                 | 57.0                                 | 3.5                   | 6.0  | 13.0        |
| <b>31600.W0316</b> | Stainless | Normal      | M16            | 8.5            | 33             | 38.0                                 | 78.0                                 | 4.5                   | 8.0  | 32.0        |
| <b>31600.W0320</b> | Stainless | Normal      | M20            | 10.0           | 43             | 39.0                                 | 81.0                                 | 6.5                   | 10.0 | 67.0        |
| <b>31600.W0324</b> | Stainless | Normal      | M24            | 13.0           | 48             | 72.0                                 | 155.0                                | 8.0                   | 12.0 | 106.0       |
| <b>31600.W0346</b> | Stainless | Increased   | M 6            | 2.7            | 15             | 11.0                                 | 25.0                                 | 2.0                   | 3.0  | 2.0         |



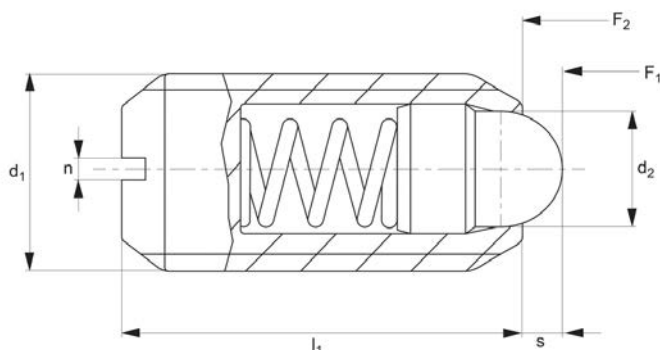
| Order No.          | Material  | Spring load | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | Stroke s <sub>1</sub> | A/F  | Weight<br>g |
|--------------------|-----------|-------------|----------------|----------------|----------------|--------------------------------------|--------------------------------------|-----------------------|------|-------------|
| <b>31600.W0348</b> | Stainless | Increased   | M 8            | 3.8            | 18             | 23.0                                 | 59.0                                 | 2.0                   | 4.0  | 4.2         |
| <b>31600.W0350</b> | Stainless | Increased   | M10            | 4.5            | 23             | 20.0                                 | 54.0                                 | 2.5                   | 5.0  | 8.5         |
| <b>31600.W0352</b> | Stainless | Increased   | M12            | 6.2            | 26             | 38.0                                 | 96.0                                 | 3.5                   | 6.0  | 13.0        |
| <b>31600.W0356</b> | Stainless | Increased   | M16            | 8.5            | 33             | 50.0                                 | 100.0                                | 4.5                   | 8.0  | 32.0        |
| <b>31600.W0360</b> | Stainless | Increased   | M20            | 10.0           | 43             | 52.0                                 | 133.0                                | 6.5                   | 10.0 | 67.0        |
| <b>31600.W0364</b> | Stainless | Increased   | M24            | 13.0           | 48             | 91.0                                 | 223.0                                | 8.0                   | 12.0 | 106.0       |



# Spring Plungers

with round-ended pin & slot - stainless steel or steel

# Spring Plunger & Detent Pins



## 32150

SPRING PLUNGER & DETENT PINS

### Material

#### Free cutting steel type-

Body: free cutting steel, blackened.

Pin: free cutting steel, hardened, blackened.

Spring: stainless steel.

#### Stainless steel type-

Body: stainless steel 1.4305 (AISI 303).

Pin: stainless steel, 1.4305 (AISI 303).

Spring: stainless steel.

### Technical Notes

These spring plungers may be used for location, for applying pressure or lifting off.

Temperature range up to 250°C. Spring load \* = statistical average value.

### Tips

#### Spring load identifier:

Normal spring load - no marking.

Increased spring load - body marked with two lines.

Special types available on request.

### Important Notes

All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

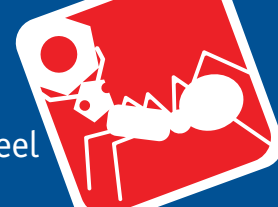
| Order No.   | Material  | Spring load | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | n <sub>1</sub> | s <sub>1</sub> | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | Weight<br>g |
|-------------|-----------|-------------|----------------|----------------|----------------|----------------|----------------|--------------------------------------|--------------------------------------|-------------|
| 32150.W0104 | Steel     | Normal      | M 4            | 1.8            | 9              | 0.6            | 1.5            | 4.5                                  | 12.5                                 | 0.4         |
| 32150.W0105 | Steel     | Normal      | M 5            | 2.4            | 12             | 0.8            | 2.0            | 5.0                                  | 13.0                                 | 1.1         |
| 32150.W0106 | Steel     | Normal      | M 6            | 2.7            | 14             | 1.0            | 2.0            | 6.0                                  | 17.0                                 | 1.8         |
| 32150.W0108 | Steel     | Normal      | M 8            | 3.8            | 16             | 1.2            | 2.0            | 16.0                                 | 33.0                                 | 3.7         |
| 32150.W0110 | Steel     | Normal      | M10            | 4.5            | 19             | 1.5            | 2.5            | 19.0                                 | 42.0                                 | 7.1         |
| 32150.W0112 | Steel     | Normal      | M12            | 6.2            | 22             | 2.0            | 3.5            | 22.0                                 | 57.0                                 | 11.0        |
| 32150.W0116 | Steel     | Normal      | M16            | 8.5            | 24             | 2.0            | 4.5            | 38.0                                 | 78.0                                 | 23.0        |
| 32150.W0120 | Steel     | Normal      | M20            | 10.0           | 30             | 2.5            | 6.5            | 39.0                                 | 81.0                                 | 46.0        |
| 32150.W0124 | Steel     | Normal      | M24            | 13.0           | 34             | 3.0            | 8.0            | 72.0                                 | 155.0                                | 73.0        |
| 32150.W0306 | Steel     | Increased   | M 6            | 2.7            | 14             | 1.0            | 2.0            | 11.0                                 | 25.0                                 | 1.8         |
| 32150.W0308 | Steel     | Increased   | M 8            | 3.8            | 16             | 1.2            | 2.0            | 23.0                                 | 59.0                                 | 3.8         |
| 32150.W0310 | Steel     | Increased   | M10            | 4.5            | 19             | 1.5            | 2.5            | 20.0                                 | 54.0                                 | 7.0         |
| 32150.W0312 | Steel     | Increased   | M12            | 6.2            | 22             | 2.0            | 3.5            | 38.0                                 | 96.0                                 | 11.0        |
| 32150.W0320 | Steel     | Increased   | M20            | 10.0           | 30             | 2.5            | 6.5            | 52.0                                 | 133.0                                | 46.0        |
| 32150.W0324 | Steel     | Increased   | M24            | 13.0           | 34             | 3.0            | 8.0            | 91.0                                 | 223.0                                | 74.0        |
| 32150.W0504 | Stainless | Normal      | M 4            | 1.8            | 9              | 0.6            | 1.5            | 4.5                                  | 12.5                                 | 0.4         |
| 32150.W0505 | Stainless | Normal      | M 5            | 2.4            | 12             | 0.8            | 2.0            | 5.0                                  | 13.0                                 | 1.1         |
| 32150.W0506 | Stainless | Normal      | M 6            | 2.7            | 14             | 1.0            | 2.0            | 6.0                                  | 17.0                                 | 1.8         |
| 32150.W0508 | Stainless | Normal      | M 8            | 3.8            | 16             | 1.2            | 2.0            | 16.0                                 | 33.0                                 | 3.7         |
| 32150.W0510 | Stainless | Normal      | M10            | 4.5            | 19             | 1.5            | 2.5            | 19.0                                 | 42.0                                 | 7.1         |
| 32150.W0512 | Stainless | Normal      | M12            | 6.2            | 22             | 2.0            | 3.5            | 22.0                                 | 57.0                                 | 11.0        |
| 32150.W0516 | Stainless | Normal      | M16            | 8.5            | 24             | 2.0            | 4.5            | 38.0                                 | 78.0                                 | 23.0        |
| 32150.W0520 | Stainless | Normal      | M20            | 10.0           | 30             | 2.5            | 6.5            | 39.0                                 | 81.0                                 | 46.0        |
| 32150.W0524 | Stainless | Normal      | M24            | 13.0           | 34             | 3.0            | 8.0            | 72.0                                 | 155.0                                | 73.0        |
| 32150.W0706 | Stainless | Increased   | M 6            | 2.7            | 14             | 1.0            | 2.0            | 11.0                                 | 25.0                                 | 1.8         |
| 32150.W0708 | Stainless | Increased   | M 8            | 3.8            | 16             | 1.2            | 2.0            | 23.0                                 | 59.0                                 | 3.8         |

# Spring Plunger & Detent Pins



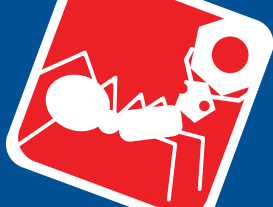
## Spring Plungers

with round-ended pin & slot - stainless steel or steel



| Order No.          | Material  | Spring load | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | n <sub>1</sub> | s <sub>1</sub> | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | Weight<br>g |
|--------------------|-----------|-------------|----------------|----------------|----------------|----------------|----------------|--------------------------------------|--------------------------------------|-------------|
| <b>32150.W0710</b> | Stainless | Increased   | M10            | 4.5            | 19             | 1.5            | 2.5            | 20.0                                 | 54.0                                 | 7.0         |
| <b>32150.W0712</b> | Stainless | Increased   | M12            | 6.2            | 22             | 2.0            | 3.5            | 38.0                                 | 96.0                                 | 11.0        |
| <b>32150.W0720</b> | Stainless | Increased   | M20            | 10.0           | 30             | 2.5            | 6.5            | 52.0                                 | 133.0                                | 46.0        |
| <b>32150.W0724</b> | Stainless | Increased   | M24            | 13.0           | 34             | 3.0            | 8.0            | 91.0                                 | 223.0                                | 74.0        |

SPRING PLUNGER & DETENT PINS



# Spring Plungers

with pin end & hex. socket - stainless steel

## Spring Plunger & Detent Pins



### 32200

SPRING PLUNGER & DETENT PINS

#### Material

##### Free cutting steel type-

Body: free cutting steel, blackened.  
Pin: free cutting steel, hardened, blackened, or thermoplastic POM, white.  
Spring: stainless steel.

##### Stainless steel type-

Body: stainless steel 1.4305 (AISI 303).  
Pin: stainless steel 1.4305 (AISI 303), or thermoplastic POM, white.  
Spring: stainless steel.

#### Technical Notes

These spring plungers may be used for

location, for applying pressure or lifting off.  
Temperature range: all steel or stainless, up to 250°C.  
Steel or stainless with thermoplastic pin, -30°C to +50°C.  
Spring load \* = statistical average value.

#### Tips

##### Spring load identifier:

Normal spring load - no marking.  
Increased spring load - body marked with two lines.

These spring plungers can be assembled by

use of a hexagon key at the rear, or from the front with special slotted screwdrivers, see 32200.W0803 to .W0824.  
Special types available on request.

#### Important Notes

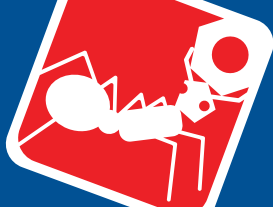
All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

| Order No.   | Spring load | Finish            | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | s <sub>1</sub> | Spring load F <sub>1</sub><br>N<br>~ | Spring load F <sub>2</sub><br>N<br>~ | t <sub>1</sub> | w <sub>1</sub> | A/F | Weight<br>g |
|-------------|-------------|-------------------|----------------|----------------|----------------|----------------|--------------------------------------|--------------------------------------|----------------|----------------|-----|-------------|
| 32200.W0003 | Normal      | All Steel         | M 3            | 1.0            | 12             | 1.0            | 2.0                                  | 4                                    | 0.5            | 0.4            | 0.7 | 0.40        |
| 32200.W0004 | Normal      | All Steel         | M 4            | 1.5            | 15             | 1.5            | 4.5                                  | 16                                   | 0.6            | 0.6            | 1.3 | 0.93        |
| 32200.W0005 | Normal      | All Steel         | M 5            | 2.4            | 18             | 2.3            | 6.0                                  | 19                                   | 0.8            | 1.2            | 1.5 | 1.70        |
| 32200.W0006 | Normal      | All Steel         | M 6            | 2.7            | 20             | 2.5            | 6.0                                  | 19                                   | 0.9            | 1.3            | 2.0 | 2.80        |
| 32200.W0008 | Normal      | All Steel         | M 8            | 3.5            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 2.5 | 5.80        |
| 32200.W0010 | Normal      | All Steel         | M10            | 4.0            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 3.0 | 9.20        |
| 32200.W0012 | Normal      | All Steel         | M12            | 6.0            | 28             | 4.0            | 12.0                                 | 53                                   | 2.0            | 2.7            | 4.0 | 16.00       |
| 32200.W0016 | Normal      | All Steel         | M16            | 7.5            | 32             | 5.0            | 45.0                                 | 100                                  | 2.5            | 3.2            | 5.0 | 35.00       |
| 32200.W0020 | Normal      | All Steel         | M20            | 10.0           | 40             | 7.0            | 52.0                                 | 125                                  | 3.0            | 3.7            | 6.0 | 68.00       |
| 32200.W0024 | Normal      | All Steel         | M24            | 12.0           | 52             | 10.0           | 70.0                                 | 170                                  | 3.0            | 3.7            | 8.0 | 131.00      |
| 32200.W0105 | Increased   | All Steel         | M 5            | 2.4            | 18             | 2.3            | 11.0                                 | 40                                   | 0.8            | 1.2            | 1.5 | 1.60        |
| 32200.W0106 | Increased   | All Steel         | M 6            | 2.7            | 20             | 2.5            | 15.0                                 | 43                                   | 0.9            | 1.3            | 2.0 | 2.80        |
| 32200.W0108 | Increased   | All Steel         | M 8            | 3.5            | 22             | 3.0            | 20.0                                 | 75                                   | 1.4            | 1.5            | 2.5 | 5.80        |
| 32200.W0110 | Increased   | All Steel         | M10            | 4.0            | 22             | 3.0            | 20.0                                 | 75                                   | 1.4            | 1.5            | 3.0 | 9.30        |
| 32200.W0112 | Increased   | All Steel         | M12            | 6.0            | 28             | 4.0            | 45.0                                 | 120                                  | 2.0            | 2.7            | 4.0 | 16.00       |
| 32200.W0116 | Increased   | All Steel         | M16            | 7.5            | 32             | 5.0            | 64.0                                 | 160                                  | 2.5            | 3.2            | 5.0 | 33.00       |
| 32200.W0120 | Increased   | All Steel         | M20            | 10.0           | 40             | 7.0            | 75.0                                 | 195                                  | 3.0            | 3.7            | 6.0 | 67.00       |
| 32200.W0124 | Increased   | All Steel         | M24            | 12.0           | 52             | 10.0           | 75.0                                 | 245                                  | 3.0            | 3.7            | 8.0 | 129.00      |
| 32200.W0204 | Normal      | Steel, Thermo Pin | M 4            | 1.5            | 15             | 1.5            | 4.5                                  | 16                                   | 0.6            | 0.6            | 1.3 | 0.86        |
| 32200.W0205 | Normal      | Steel, Thermo Pin | M 5            | 2.4            | 18             | 2.3            | 6.0                                  | 19                                   | 0.8            | 1.2            | 1.5 | 1.50        |
| 32200.W0206 | Normal      | Steel, Thermo Pin | M 6            | 2.7            | 20             | 2.5            | 6.0                                  | 19                                   | 0.9            | 1.3            | 2.0 | 2.30        |
| 32200.W0208 | Normal      | Steel, Thermo Pin | M 8            | 3.5            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 2.5 | 5.10        |



| Order No.          | Spring load | Finish            | d <sub>1</sub> | d <sub>2</sub> | l <sub>1</sub> | s <sub>1</sub> | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | t <sub>1</sub> | w <sub>1</sub> | A/F | Weight<br>g |
|--------------------|-------------|-------------------|----------------|----------------|----------------|----------------|--------------------------------------|--------------------------------------|----------------|----------------|-----|-------------|
| <b>32200.W0210</b> | Normal      | Steel, Thermo Pin | M10            | 4.0            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 3.0 | 8.10        |
| <b>32200.W0212</b> | Normal      | Steel, Thermo Pin | M12            | 6.0            | 28             | 4.0            | 12.0                                 | 53                                   | 2.0            | 2.7            | 4.0 | 14.00       |
| <b>32200.W0216</b> | Normal      | Steel, Thermo Pin | M16            | 7.5            | 32             | 5.0            | 45.0                                 | 100                                  | 2.5            | 3.2            | 5.0 | 31.00       |
| <b>32200.W0404</b> | Normal      | All Stainless     | M 4            | 1.5            | 15             | 1.5            | 4.5                                  | 16                                   | 0.6            | 0.6            | 1.3 | 1.10        |
| <b>32200.W0405</b> | Normal      | All Stainless     | M 5            | 2.4            | 18             | 2.3            | 6.0                                  | 19                                   | 0.8            | 1.2            | 1.5 | 1.70        |
| <b>32200.W0406</b> | Normal      | All Stainless     | M 6            | 2.7            | 20             | 2.5            | 6.0                                  | 19                                   | 0.9            | 1.3            | 2.0 | 2.80        |
| <b>32200.W0408</b> | Normal      | All Stainless     | M 8            | 3.5            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 2.5 | 5.90        |
| <b>32200.W0410</b> | Normal      | All Stainless     | M10            | 4.0            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 3.0 | 9.50        |
| <b>32200.W0412</b> | Normal      | All Stainless     | M12            | 6.0            | 28             | 4.0            | 12.0                                 | 53                                   | 2.0            | 2.7            | 4.0 | 17.00       |
| <b>32200.W0416</b> | Normal      | All Stainless     | M16            | 7.5            | 32             | 5.0            | 45.0                                 | 100                                  | 2.5            | 3.2            | 5.0 | 35.00       |
| <b>32200.W0420</b> | Normal      | All Stainless     | M20            | 10.0           | 40             | 7.0            | 52.0                                 | 125                                  | 3.0            | 3.7            | 6.0 | 68.00       |
| <b>32200.W0604</b> | Normal      | S/S, Thermo Pin   | M 4            | 1.5            | 15             | 1.5            | 4.5                                  | 16                                   | 0.6            | 0.6            | 1.3 | 0.93        |
| <b>32200.W0605</b> | Normal      | S/S, Thermo Pin   | M 5            | 2.4            | 18             | 2.3            | 6.0                                  | 19                                   | 0.8            | 1.2            | 1.5 | 1.60        |
| <b>32200.W0606</b> | Normal      | S/S, Thermo Pin   | M 6            | 2.7            | 20             | 2.5            | 6.0                                  | 19                                   | 0.9            | 1.3            | 2.0 | 2.50        |
| <b>32200.W0608</b> | Normal      | S/S, Thermo Pin   | M 8            | 3.5            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 2.5 | 5.10        |
| <b>32200.W0610</b> | Normal      | S/S, Thermo Pin   | M10            | 4.0            | 22             | 3.0            | 10.0                                 | 39                                   | 1.4            | 1.5            | 3.0 | 8.50        |
| <b>32200.W0612</b> | Normal      | S/S, Thermo Pin   | M12            | 6.0            | 28             | 4.0            | 12.0                                 | 53                                   | 2.0            | 2.7            | 4.0 | 14.00       |
| <b>32200.W0616</b> | Normal      | S/S, Thermo Pin   | M16            | 7.5            | 32             | 5.0            | 45.0                                 | 100                                  | 2.5            | 3.2            | 5.0 | 32.00       |
| <b>32200.W0803</b> | Head ø2,5   | Screwdriver       | M 3            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 13.00       |
| <b>32200.W0804</b> | Head ø4,0   | Screwdriver       | M 4            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 29.00       |
| <b>32200.W0805</b> | Head ø5,0   | Screwdriver       | M 5            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 61.00       |
| <b>32200.W0806</b> | Head ø5,5   | Screwdriver       | M 6            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 65.00       |
| <b>32200.W0808</b> | Head ø7,0   | Screwdriver       | M 8            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 108.00      |
| <b>32200.W0810</b> | Head ø8,0   | Screwdriver       | M10            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 124.00      |
| <b>32200.W0812</b> | Head ø11,0  | Screwdriver       | M12            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 112.00      |
| <b>32200.W0816</b> | Head ø14,0  | Screwdriver       | M16            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 173.00      |
| <b>32200.W0820</b> | Head ø18,0  | Screwdriver       | M20            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 226.00      |
| <b>32200.W0824</b> | Head ø19,9  | Screwdriver       | M24            | -              | -              | -              | -                                    | -                                    | -              | -              | -   | 258.00      |

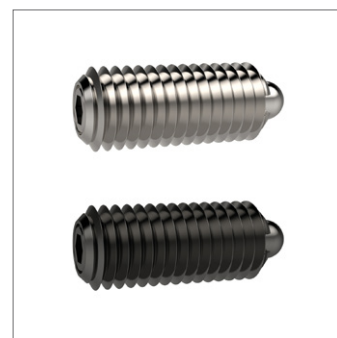
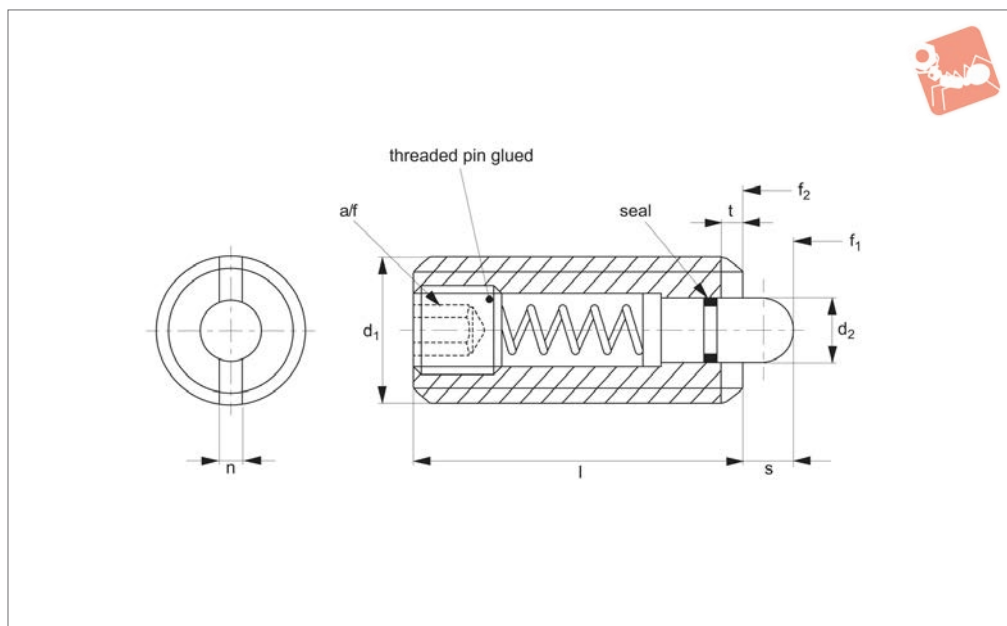




# Spring Plungers

with pin end & hex socket and seal - **stainless steel**

## Spring Plunger & Detent Pins



**32220**

SPRING PLUNGER & DETENT PINS

### Material

#### Free cutting steel type-

Body: free cutting steel, blackened.

Pin: free cutting steel, blackened.

Spring: stainless steel. Seal NBR plastic.

#### Stainless steel type-

Body: stainless steel 1.4305 (AISI 303).

Pin: stainless steel 1.4305 (AISI 303).

Spring: stainless steel.

Seal: NBR plastic.

### Technical Notes

These spring plungers may be used for

location, for applying pressure or lifting off. Incorporation of a seal into the design prevents liquid penetrating into the spring plunger. Temperature range -30°C to +80°C. Spring load \* = statistical average value.

### Tips

#### Spring load identifier:

Normal spring load - no marking.

Increased spring load - body marked with two lines.

Please note these items vary in dimension

l, spring load and temperature range in comparison to no-sealed item 32200.

Spring plungers can be assembled by use of a hexagon key at the rear, or from the front with special slotted screwdrivers, see 32200.W0808 to .W0816.

Special types available on request.

### Important Notes

**All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.**

| Order No.          | Spring load | Finish        | d <sub>1</sub> | d <sub>2</sub> | l  | n   | s   | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | t   | A/F | Weight<br>g |
|--------------------|-------------|---------------|----------------|----------------|----|-----|-----|--------------------------------------|--------------------------------------|-----|-----|-------------|
| <b>32220.W0048</b> | Normal      | All Steel     | M 8            | 3.8            | 26 | 1.5 | 3.0 | 9                                    | 24                                   | 1.4 | 2.5 | 6.9         |
| <b>32220.W0050</b> | Normal      | All Steel     | M10            | 4.0            | 28 | 1.5 | 3.5 | 15                                   | 30                                   | 1.4 | 3.0 | 11.0        |
| <b>32220.W0052</b> | Normal      | All Steel     | M12            | 6.0            | 35 | 2.7 | 4.0 | 24                                   | 50                                   | 2.0 | 4.0 | 20.0        |
| <b>32220.W0056</b> | Normal      | All Steel     | M16            | 7.5            | 40 | 3.2 | 5.0 | 36                                   | 58                                   | 2.5 | 5.0 | 43.0        |
| <b>32220.W0148</b> | Increased   | All Steel     | M 8            | 3.8            | 26 | 1.5 | 3.0 | 17                                   | 39                                   | 1.4 | 2.5 | 6.6         |
| <b>32220.W0150</b> | Increased   | All Steel     | M10            | 4.0            | 28 | 1.5 | 3.5 | 22                                   | 43                                   | 1.4 | 3.0 | 12.0        |
| <b>32220.W0152</b> | Increased   | All Steel     | M12            | 6.0            | 35 | 2.7 | 4.0 | 40                                   | 80                                   | 2.0 | 4.0 | 20.0        |
| <b>32220.W0156</b> | Increased   | All Steel     | M16            | 7.5            | 40 | 3.2 | 5.0 | 44                                   | 113                                  | 2.5 | 5.0 | 45.0        |
| <b>32220.W0448</b> | Normal      | All Stainless | M 8            | 3.8            | 26 | 1.5 | 3.0 | 9                                    | 24                                   | 1.4 | 2.5 | 7.2         |
| <b>32220.W0450</b> | Normal      | All Stainless | M10            | 4.0            | 28 | 1.5 | 3.5 | 15                                   | 30                                   | 1.4 | 3.0 | 12.0        |
| <b>32220.W0452</b> | Normal      | All Stainless | M12            | 6.0            | 35 | 2.7 | 4.0 | 24                                   | 50                                   | 2.0 | 4.0 | 20.0        |
| <b>32220.W0456</b> | Normal      | All Stainless | M16            | 7.5            | 40 | 3.2 | 5.0 | 36                                   | 58                                   | 2.5 | 5.0 | 44.0        |

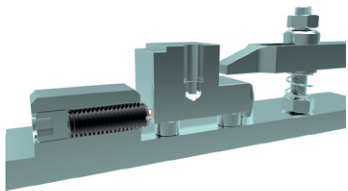
## Spring Plunger & Detent Pins

## Spring Plungers

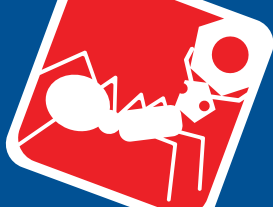
with pin end & hex socket and seal - stainless steel



SPRING PLUNGER & DETENT PINS



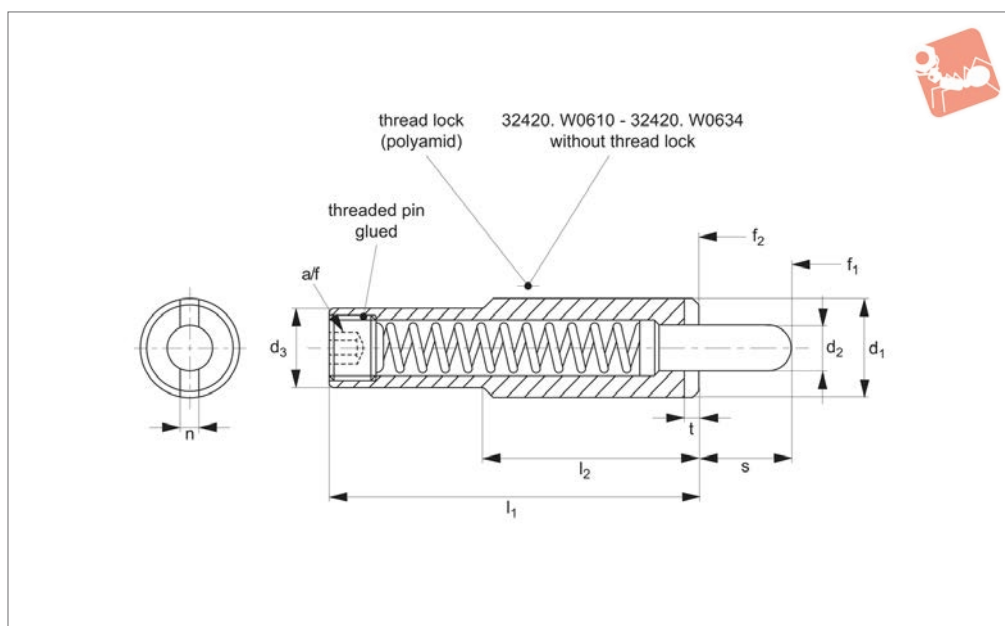




# Spring Plungers

## long version

# Spring Plunger & Detent Pins



# 32420

SPRING PLUNGER & DETENT PINS

### Material

Body: free cutting steel, blackened or heat-treated steel tempered blackened.  
Part nos. 32420.W0512 to 32420.W0580 - threaded body bright finish.  
Pin: case hardened steel, blackened.  
Spring: stainless steel.

### Technical Notes

Used for ejecting parts (particularly in

press tools), and applying pressure. They are fitted/removed by means of the slot or internal hexagon.

Spring load\* = statistical average value.

### Tips

#### Spring Load Identifier:

Normal spring load - no marking.

Increased spring load - body marked with two lines.

Parts 32420.W0408 to 32420.W0580 with thread-lock.

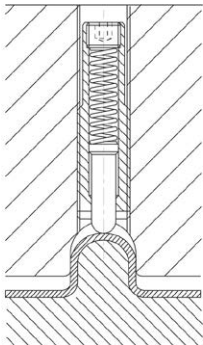
### Important Notes

All metric Wixroyd spring plungers have a coarse thread, see appendix five for thread details.

| Order No.   | Spring load          | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | l <sub>1</sub> | l <sub>2</sub> | n   | s  | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | t   | A/F | Weight<br>g |
|-------------|----------------------|----------------|----------------|----------------|----------------|----------------|-----|----|--------------------------------------|--------------------------------------|-----|-----|-------------|
| 32420.W0408 | Normal               | M10            | 4.0            | 7.8            | 35             | 25             | 1.5 | 8  | 6                                    | 16                                   | 1.4 | 3   | 13          |
| 32420.W0412 | Normal               | M12            | 5.5            | 9.5            | 43             | 35             | 2.7 | 10 | 4                                    | 18                                   | 2.0 | 4   | 22          |
| 32420.W0430 | Normal               | M16            | 8.0            | 13.4           | 48             | 35             | 3.2 | 10 | 7                                    | 24                                   | 3.0 | 6   | 47          |
| 32420.W0432 | Normal               | M16            | 8.0            | 13.4           | 58             | 35             | 3.2 | 10 | 15                                   | 42                                   | 3.0 | 6   | 52          |
| 32420.W0436 | Normal               | M16            | 8.0            | 13.4           | 58             | 35             | 3.2 | 15 | 9                                    | 33                                   | 3.0 | 6   | 54          |
| 32420.W0440 | Normal               | M16            | 8.0            | 13.4           | 58             | 35             | 3.2 | 20 | 4                                    | 23                                   | 3.0 | 6   | 55          |
| 32420.W0442 | Normal               | M16            | 8.0            | 13.4           | 83             | 35             | 3.2 | 20 | 11                                   | 43                                   | 3.0 | 6   | 71          |
| 32420.W0444 | Normal               | M16            | 8.0            | 13.4           | 98             | 35             | 3.2 | 25 | 13                                   | 41                                   | 3.0 | 6   | 81          |
| 32420.W0450 | Normal               | M16            | 8.0            | 13.4           | 98             | 35             | 3.2 | 30 | 13                                   | 47                                   | 3.0 | 6   | 83          |
| 32420.W0452 | Normal               | M16            | 8.0            | 13.4           | 118            | 35             | 3.2 | 30 | 24                                   | 110                                  | 3.0 | 6   | 97          |
| 32420.W0455 | Normal               | M16            | 8.0            | 13.4           | 148            | 35             | 3.2 | 40 | 13                                   | 63                                   | 3.0 | 6   | 117         |
| 32420.W0460 | Normal               | M16            | 8.0            | 13.4           | 148            | 35             | 3.2 | 50 | 7                                    | 43                                   | 3.0 | 6   | 117         |
| 32420.W0480 | Normal               | M24            | 10.0           | 19.6           | 60             | 45             | 3.7 | 15 | 14                                   | 87                                   | 3.0 | 8   | 132         |
| 32420.W0512 | Increased            | M12            | 5.5            | 9.5            | 43             | 35             | 2.7 | 10 | 7                                    | 46                                   | 2.0 | 4   | 23          |
| 32420.W0530 | Increased            | M16            | 8.0            | 13.4           | 48             | 35             | 3.2 | 10 | 10                                   | 43                                   | 3.0 | 6   | 47          |
| 32420.W0532 | Increased            | M16            | 8.0            | 13.4           | 58             | 35             | 3.2 | 10 | 14                                   | 84                                   | 3.0 | 6   | 54          |
| 32420.W0536 | Increased            | M16            | 8.0            | 13.4           | 58             | 35             | 3.2 | 15 | 10                                   | 57                                   | 3.0 | 6   | 55          |
| 32420.W0542 | Increased            | M16            | 8.0            | 13.4           | 83             | 35             | 3.2 | 20 | 18                                   | 72                                   | 3.0 | 6   | 72          |
| 32420.W0544 | Increased            | M16            | 8.0            | 13.4           | 98             | 35             | 3.2 | 25 | 20                                   | 70                                   | 3.0 | 6   | 82          |
| 32420.W0550 | Increased            | M16            | 8.0            | 13.4           | 98             | 35             | 3.2 | 30 | 20                                   | 80                                   | 3.0 | 6   | 83          |
| 32420.W0555 | Increased            | M16            | 8.0            | 13.4           | 148            | 35             | 3.2 | 40 | 21                                   | 113                                  | 3.0 | 6   | 121         |
| 32420.W0560 | Increased            | M16            | 8.0            | 13.4           | 148            | 35             | 3.2 | 50 | 13                                   | 75                                   | 3.0 | 6   | 121         |
| 32420.W0580 | Increased            | M24            | 10.0           | 19.6           | 60             | 45             | 3.7 | 15 | 24                                   | 192                                  | 3.0 | 8   | 134         |
| 32420.W0610 | Normal, Heat-Treated | M16            | 7.3            | 13.4           | 80             | 35             | 3.2 | 11 | 17                                   | 74                                   | 3.0 | 8   | 69          |
| 32420.W0612 | Normal, Heat-Treated | M16            | 7.3            | 13.4           | 120            | 35             | 3.2 | 21 | 21                                   | 81                                   | 3.0 | 8   | 96          |
| 32420.W0614 | Normal, Heat-Treated | M16            | 7.3            | 13.4           | 150            | 35             | 3.2 | 31 | 21                                   | 89                                   | 3.0 | 8   | 117         |
| 32420.W0616 | Normal, Heat-Treated | M16            | 7.3            | 13.4           | 200            | 35             | 3.2 | 41 | 16                                   | 80                                   | 3.0 | 8   | 149         |

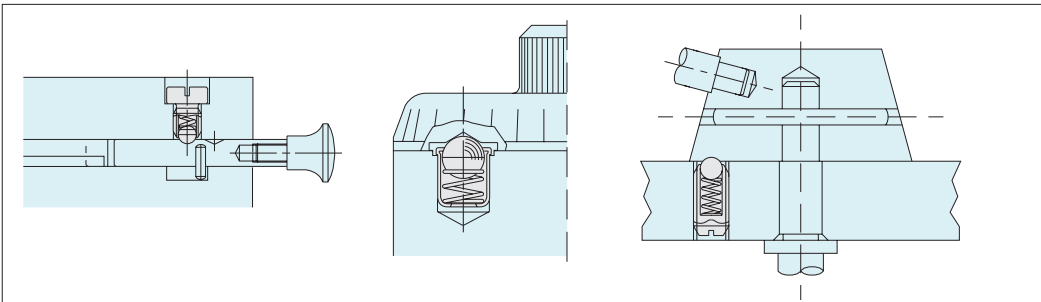


| Order No.          | Spring load          | d <sub>1</sub> | d <sub>2</sub> | d <sub>3</sub> | l <sub>1</sub> | l <sub>2</sub> | n   | s  | Spring load F <sub>1</sub><br>N<br>≈ | Spring load F <sub>2</sub><br>N<br>≈ | t   | A/F | Weight<br>g |
|--------------------|----------------------|----------------|----------------|----------------|----------------|----------------|-----|----|--------------------------------------|--------------------------------------|-----|-----|-------------|
| <b>32420.W0630</b> | Normal, Heat-Treated | M22            | 9.0            | 19.0           | 130            | 50             | 3.5 | 21 | 80                                   | 214                                  | 4.0 | 8   | 211         |
| <b>32420.W0632</b> | Normal, Heat-Treated | M22            | 9.0            | 19.0           | 168            | 50             | 3.5 | 31 | 70                                   | 210                                  | 4.0 | 8   | 278         |
| <b>32420.W0634</b> | Normal, Heat-Treated | M22            | 9.0            | 19.0           | 226            | 50             | 3.5 | 41 | 76                                   | 208                                  | 4.0 | 8   | 358         |
| <b>32420.W0830</b> | Screwdriver          | for M10        | -              | -              | -              | -              | -   | -  | -                                    | -                                    | -   | -   | 87          |
| <b>32420.W0832</b> | Screwdriver          | for M12        | -              | -              | -              | -              | -   | -  | -                                    | -                                    | -   | -   | 88          |
| <b>32420.W0834</b> | Screwdriver          | for M16        | -              | -              | -              | -              | -   | -  | -                                    | -                                    | -   | -   | 110         |
| <b>32420.W0836</b> | Screwdriver          | for M22        | -              | -              | -              | -              | -   | -  | -                                    | -                                    | -   | -   | 245         |
| <b>32420.W0838</b> | Screwdriver          | for M24        | -              | -              | -              | -              | -   | -  | -                                    | -                                    | -   | -   | 258         |



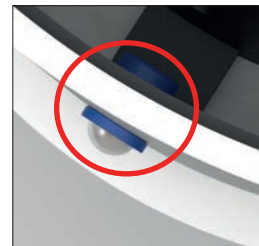


## Wixroyd Spring Plungers - A Range of Endless Possibilities



Made of high quality steel and stainless steel, Wixroyd's Spring Plunger range is proven to be reliable for millions of repetitions in securing, positioning, positive locking, indexing and quick release. Their application is limited only by the imagination!

Three push-fit spring plungers no. 32000 have been added to the design of this recessed commercial light fitting. The push-fit design of the plunger makes for easy assembly during production. Their use greatly simplifies the mounting and servicing of the units, reducing handling costs and saving valuable operator time.



### Commercial Lighting

Used in conjunction with a simple hinge, Wixroyd spring plunger 32300 provides an easy and secure means to positively position and secure the back panel of a blood gas analysis machine. With both brass and stainless steel varieties, our spring plungers have a wide range of application in the medical, pharmaceutical, food and drink processing industries.



### Medical Applications

#### Uses

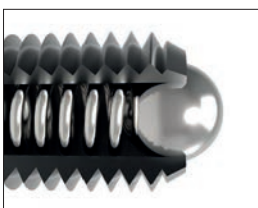
- For location, applying pressure and "lifting off".
- Securing and positioning.
- Positive locking and indexing.
- Quick release.

#### Industry Sectors

- Machine and fixture design.
- Measuring equipment.
- Electronic components.
- Lighting equipment.
- Medical, optics and orthopaedics.

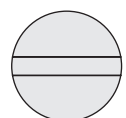
#### Applications

## Wixroyd Spring Plungers - Uses and Mounting Options

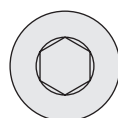


- 31400
- 31420
- 31500
- 32000
- 32100
- 32102
- 32280
- 32300
- 32302
- 32350

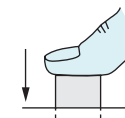
#### Mounting Options



Rear slot

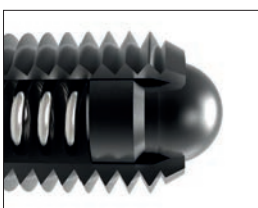


Rear hexagon



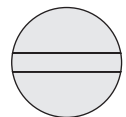
Push fit

#### Ball Type

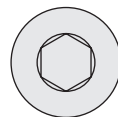


- 31000
- 31600
- 32150
- 32200
- 32220
- 32282
- 32400
- 32420

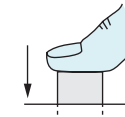
#### Mounting Options



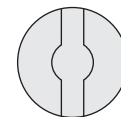
Rear slot



Rear hexagon



Push fit



Front slot

#### Pin Head Type



### Quality products every time

#### 100% Testing

- Every spring plunger that is produced on the Wixroyd assembly line is individually tested. That is how we guarantee the quality of our products.
- A Wixroyd spring plunger is tested against four key criteria during manufacture.

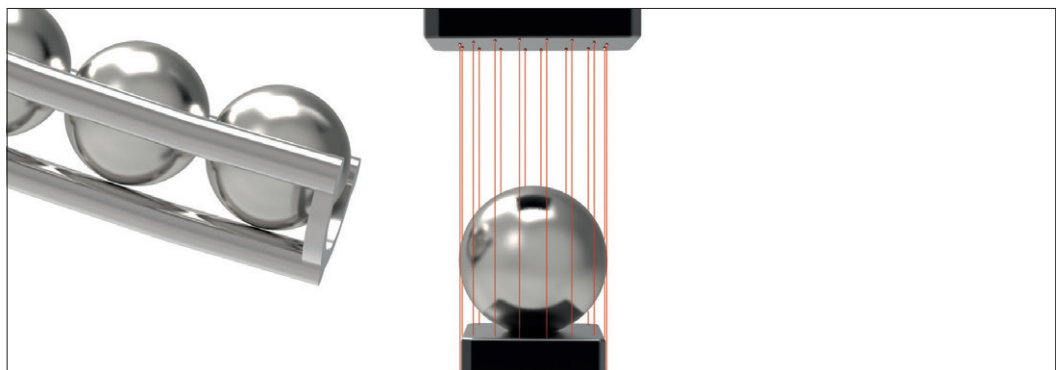
#### Accuracy of 'S' Stroke/ Spring Range



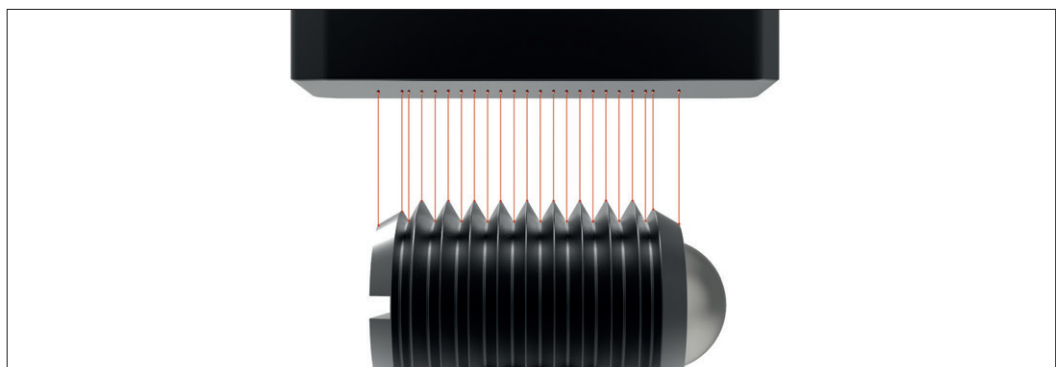
#### Accuracy of $f_1$ and $f_2$ Spring Forces

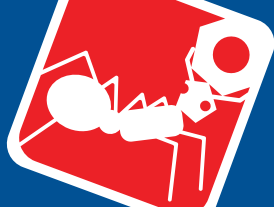


#### Accuracy of Ball Diameter



#### Accuracy of Thread





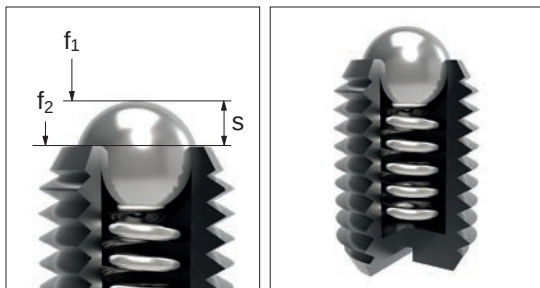
# Wixroyd Spring Plungers

## metric thread

31000 - 32420  
Positioning Elements

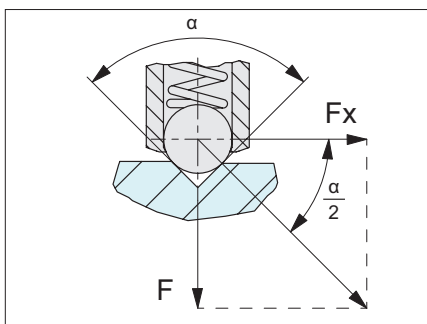
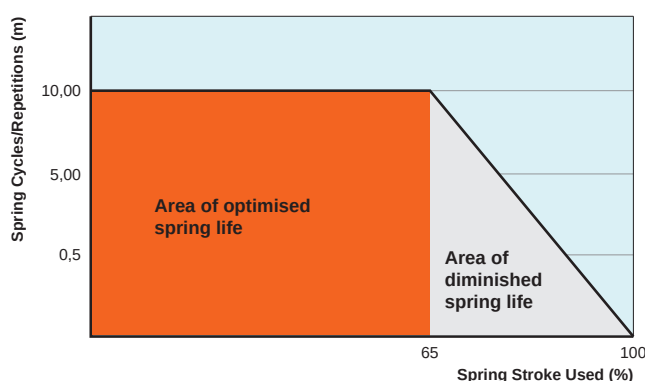
| ISO metric coarse threads (mm) |     |     |     |      |     |     |     |      |     |      |      |     |     |     |     |     |
|--------------------------------|-----|-----|-----|------|-----|-----|-----|------|-----|------|------|-----|-----|-----|-----|-----|
| Thread (D)                     | 3   | 3,5 | 4   | 4,5  | 5   | 6   | 7   | 8    | 10  | 12   | 14   | 16  | 18  | 20  | 22  | 24  |
| Pitch                          | 0,5 | 0,6 | 0,7 | 0,75 | 0,8 | 1,0 | 1,0 | 1,25 | 1,5 | 1,75 | 2,00 | 2,0 | 2,5 | 2,5 | 2,5 | 3,0 |

- s** Stroke, or movement of plunger's ball or pin.
- f<sub>1</sub>** The force required in Newtons (N) to overcome the static strength of the spring and achieve initial movement of the plunger's ball or pin.
- f<sub>2</sub>** The force required in Newtons (N) to fully compress the spring until the ball or pin is fully depressed against the plunger's body.



Although dependent upon a number of application specific factors, we are able to give the following guide relating to the maximum number of spring repetitions or cycles of our spring plungers.

- 100% or full stroke "s" used: approx. 300,000 cycles.
- 65% of stroke "s" used: approx 10,000,000 cycles.



We are able to provide the following formula as an approximation of the pull or push force (N) required to 'release' a ball plunger from its indexing counterpart.

$$F_x = \frac{F}{\tan \frac{\alpha}{2}}$$

$F_x$  = pull or push force (N)

$F$  = plungers spring force (see relevant product table)

$\alpha$  = angle of the indexing counter part face

**For example:**

For Spring plunger 31500.W0010;

$F = 24\text{N}$  (see product table)

**If  $\alpha = 90^\circ$**

$$F_x = \frac{24}{\tan \frac{90}{2}} = 24\text{N}$$

**If  $\alpha = 60^\circ$**

$$F_x = \frac{24}{\tan \frac{60}{2}} = 41,5\text{N}$$

**If  $\alpha = 120^\circ$**

$$F_x = \frac{24}{\tan \frac{120}{2}} = 13,8\text{N}$$

**Important Note: This is only an approximation formula. For more accurate calculation the roughness of the counterpart surface as well as any variation in the plungers spring force (due to age or high repetitions) should be considered.**

We are often asked the electrical conductivity of our spring plungers, unfortunately we are unable to provide any reliable information related to this as there are many factors in an application. We recommend you study the specific material properties of the spring plunger's component parts to make your own calculations, alternatively if in doubt make a test application.

Manufacturing exactly to your specific requirements is also our strength. If you need a variation in spring pressure, plunger body or pin design we can assist with a special design item for volumes as low as 1,000 units.

For further information, or to request a quotation, please call our sales office on 0333 207 4497.

## Thread Details

All Wixroyd metric spring plungers have a coarse thread.

## Spring Loads

## Typical Spring Repetitions

## Calculating Indexing Resistance

## Electrical Conductivity

## Specials to Your Own Design