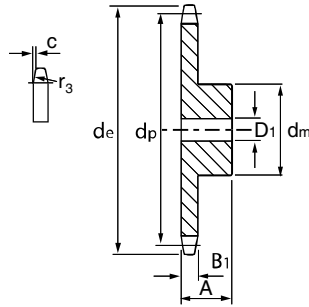


# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

03B 5 x 2.5 mm

| SPROCKET           | mm  | CHAIN                      | mm    |
|--------------------|-----|----------------------------|-------|
| Tooth Radius $r_3$ | 5.0 | Pitch                      | 5.000 |
| Chamfer c          | 0.6 | Width Between Inner Plates | 2.500 |
| Tooth Width B1     | 2.3 | Roller Diameter            | 3.200 |



Type 1 (C45)

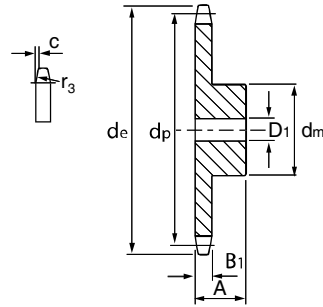
| Teeth | Outer Dia<br>$d_e$ | Pitch Dia<br>$d_p$ | Hub Dia<br>$d_m$ | Simplex Length thro' Bore A | Stock Bore D1 | Type |
|-------|--------------------|--------------------|------------------|-----------------------------|---------------|------|
| 8     | 15.2               | 13.06              | 7                | 10                          | 4             | 1    |
| 9     | 16.8               | 14.62              | 8                | 10                          | 5             | 1    |
| 10    | 18.3               | 16.18              | 9                | 10                          | 5             | 1    |
| 11    | 19.9               | 17.75              | 11               | 10                          | 6             | 1    |
| 12    | 21.5               | 19.32              | 12               | 10                          | 6             | 1    |
| 13    | 23.0               | 20.89              | 14               | 10                          | 6             | 1    |
| 14    | 24.6               | 22.47              | 15               | 10                          | 6             | 1    |
| 15    | 26.2               | 24.04              | 16               | 10                          | 6             | 1    |
| 16    | 27.8               | 25.63              | 18               | 13                          | 8             | 1    |
| 17    | 29.4               | 27.20              | 18               | 13                          | 8             | 1    |
| 18    | 30.9               | 28.79              | 18               | 13                          | 8             | 1    |
| 19    | 32.5               | 30.38              | 18               | 13                          | 8             | 1    |
| 20    | 34.1               | 31.96              | 18               | 13                          | 8             | 1    |
| 21    | 35.7               | 33.54              | 20               | 13                          | 8             | 1    |
| 22    | 37.3               | 35.13              | 20               | 13                          | 8             | 1    |
| 23    | 38.9               | 36.72              | 20               | 13                          | 8             | 1    |
| 24    | 40.5               | 38.30              | 20               | 13                          | 8             | 1    |
| 25    | 42.0               | 39.89              | 20               | 13                          | 6             | 1    |
| 26    | 43.6               | 41.48              | 25               | 15                          | 8             | 1    |
| 27    | 45.2               | 43.07              | 25               | 15                          | 8             | 1    |
| 28    | 46.8               | 44.65              | 25               | 15                          | 8             | 1    |
| 29    | 48.4               | 46.25              | 25               | 15                          | 8             | 1    |
| 30    | 50.0               | 47.83              | 25               | 15                          | 8             | 1    |
| 31    | 51.6               | 49.42              | 30               | 15                          | 8             | 1    |
| 32    | 53.2               | 51.01              | 30               | 15                          | 8             | 1    |
| 33    | 54.8               | 52.60              | 30               | 15                          | 8             | 1    |
| 34    | 56.3               | 54.19              | 30               | 15                          | 8             | 1    |
| 35    | 57.9               | 55.78              | 30               | 15                          | 8             | 1    |
| 36    | 59.5               | 57.37              | 30               | 15                          | 8             | 1    |
| 37    | 61.1               | 58.96              | 30               | 15                          | 8             | 1    |
| 38    | 62.7               | 60.54              | 30               | 15                          | 8             | 1    |
| 39    | 64.3               | 62.13              | 30               | 15                          | 8             | 1    |
| 40    | 65.9               | 63.73              | 30               | 15                          | 8             | 1    |

# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

04B 5 x 2.8 mm

| SPROCKET           | mm  | CHAIN                      | mm    |
|--------------------|-----|----------------------------|-------|
| Tooth Radius $r_3$ | 6.0 | Pitch                      | 6.000 |
| Chamfer c          | 0.7 | Width Between Inner Plates | 2.800 |
| Tooth Width B1     | 2.6 | Roller Diameter            | 4.000 |



Type 1 (C45)

| Teeth | Outer Dia de | Pitch Dia dp | Hub Dia dm | Simplex Length thro' Bore A | Stock Bore D1 | Type |
|-------|--------------|--------------|------------|-----------------------------|---------------|------|
| 8     | 18.0         | 15.67        | 9.8        | 10                          | 5             | 1    |
| 9     | 19.9         | 17.54        | 11.5       | 10                          | 5             | 1    |
| 10    | 21.7         | 19.42        | 13.0       | 10                          | 6             | 1    |
| 11    | 23.6         | 21.30        | 14.0       | 10                          | 6             | 1    |
| 12    | 25.4         | 23.18        | 16.0       | 10                          | 6             | 1    |
| 13    | 27.3         | 25.05        | 18.0       | 10                          | 6             | 1    |
| 14    | 29.2         | 26.96        | 20.0       | 10                          | 6             | 1    |
| 15    | 31.1         | 28.86        | 20.0       | 10                          | 6             | 1    |
| 16    | 33.0         | 30.76        | 20.0       | 13                          | 8             | 1    |
| 17    | 35.0         | 32.65        | 20.0       | 13                          | 8             | 1    |
| 18    | 36.9         | 34.55        | 20.0       | 13                          | 6             | 1    |
| 19    | 38.8         | 36.44        | 20.0       | 13                          | 8             | 1    |
| 20    | 40.7         | 38.34        | 20.0       | 13                          | 8             | 1    |
| 21    | 42.6         | 40.25        | 25.0       | 13                          | 8             | 1    |
| 22    | 44.5         | 42.16        | 25.0       | 13                          | 8             | 1    |
| 23    | 46.4         | 44.06        | 25.0       | 13                          | 8             | 1    |
| 24    | 48.3         | 45.96        | 25.0       | 13                          | 8             | 1    |
| 25    | 50.2         | 47.87        | 25.0       | 13                          | 8             | 1    |
| 26    | 52.1         | 49.77        | 30.0       | 15                          | 8             | 1    |
| 27    | 54.0         | 51.67        | 30.0       | 15                          | 8             | 1    |
| 28    | 55.9         | 53.58        | 30.0       | 15                          | 8             | 1    |
| 29    | 57.8         | 55.50        | 30.0       | 15                          | 8             | 1    |
| 30    | 59.8         | 57.42        | 30.0       | 15                          | 8             | 1    |
| 31    | 61.7         | 59.31        | 30.0       | 15                          | 10            | 1    |
| 32    | 63.6         | 61.21        | 30.0       | 15                          | 10            | 1    |
| 33    | 65.5         | 63.11        | 30.0       | 15                          | 10            | 1    |
| 34    | 67.4         | 65.02        | 30.0       | 15                          | 10            | 1    |
| 35    | 69.3         | 66.93        | 30.0       | 15                          | 10            | 1    |
| 36    | 71.2         | 68.84        | 30.0       | 15                          | 10            | 1    |
| 37    | 73.1         | 70.75        | 30.0       | 15                          | 10            | 1    |
| 38    | 75.0         | 72.66        | 30.0       | 15                          | 10            | 1    |
| 39    | 75.9         | 74.56        | 30.0       | 15                          | 10            | 1    |
| 40    | 78.9         | 76.47        | 30.0       | 15                          | 10            | 1    |
| 45    | 88.5         | 86.01        | 40.0       | 18                          | 12            | 1    |
| 50    | 98.0         | 95.55        | 50.0       | 20                          | 12            | 1    |
| 57    | 111.4        | 108.93       | 50.0       | 20                          | 12            | 1    |



# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

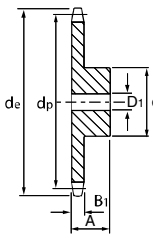
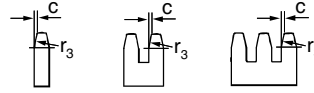
**06B 3/18" x 7/32"**

**SPROCKET**

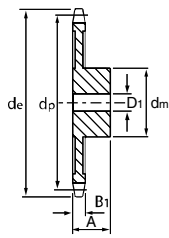
|                    |      |
|--------------------|------|
| Tooth Radius $r_3$ | 10.0 |
| Chamfer $c$        | 1.0  |
| Tooth Width $b_1$  | 5.2  |
| Tooth Width $B_1$  | 5.3  |
| Tooth Width $B_2$  | 15.4 |
| Tooth Width $B_3$  | 25.6 |

**CHAIN**

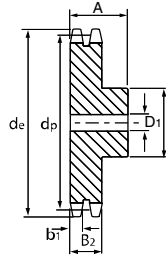
|                            |       |
|----------------------------|-------|
| Pitch                      | 9.525 |
| Width Between Inner Plates | 5.720 |
| Roller Diameter            | 6.350 |



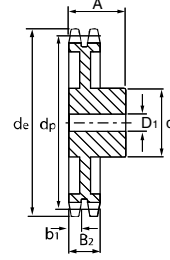
Type 1 (C45)



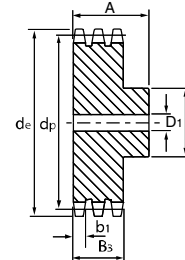
Type 2 (GG22)



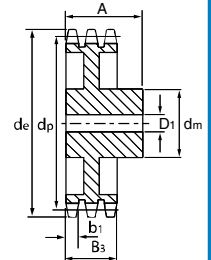
Type 1 (C45)



Type 2 (GG22)



Type 1 (C45)



Type 2 (GG22)

| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |                  | Duplex        |                     |                  | Triplex       |                     |                  | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ |      |
| 8     | 28.0            | 24.89           | 15            | 22                  | 8                | 15            | 22                  | 8                | 15            | 32                  | 8                | 1    |
| 9     | 31.0            | 27.85           | 18            | 22                  | 8                | 18            | 22                  | 8                | 18            | 32                  | 8                | 1    |
| 10    | 34.0            | 30.82           | 20            | 22                  | 8                | 20            | 22                  | 8                | 20            | 32                  | 10               | 1    |
| 11    | 37.0            | 33.80           | 22            | 25                  | 8                | 22            | 25                  | 10               | 22            | 35                  | 12               | 1    |
| 12    | 40.0            | 36.80           | 25            | 25                  | 8                | 25            | 25                  | 10               | 25            | 35                  | 12               | 1    |
| 13    | 43.0            | 39.80           | 28            | 25                  | 10               | 28            | 25                  | 10               | 28            | 35                  | 12               | 1    |
| 14    | 46.3            | 42.80           | 31            | 25                  | 10               | 31            | 25                  | 10               | 31            | 35                  | 12               | 1    |
| 15    | 49.3            | 45.81           | 34            | 25                  | 10               | 34            | 25                  | 10               | 34            | 35                  | 12               | 1    |
| 16    | 52.3            | 48.82           | 37            | 28                  | 10               | 37            | 30                  | 12               | 37            | 35                  | 12               | 1    |
| 17    | 55.3            | 51.93           | 40            | 28                  | 10               | 40            | 30                  | 12               | 40            | 35                  | 12               | 1    |
| 18    | 58.3            | 54.85           | 43            | 28                  | 10               | 43            | 30                  | 12               | 43            | 35                  | 12               | 1    |
| 19    | 61.3            | 57.87           | 45            | 28                  | 10               | 46            | 30                  | 12               | 46            | 35                  | 12               | 1    |
| 20    | 64.3            | 60.89           | 46            | 28                  | 10               | 49            | 30                  | 12               | 49            | 35                  | 12               | 1    |
| 21    | 68.0            | 63.91           | 48            | 28                  | 12               | 52            | 30                  | 16               | 52            | 40                  | 16               | 1    |
| 22    | 71.0            | 66.93           | 50            | 28                  | 12               | 55            | 30                  | 16               | 55            | 40                  | 16               | 1    |
| 23    | 73.5            | 69.95           | 52            | 28                  | 12               | 58            | 30                  | 16               | 58            | 40                  | 16               | 1    |
| 24    | 77.0            | 72.97           | 54            | 28                  | 12               | 61            | 30                  | 16               | 61            | 40                  | 16               | 1    |
| 25    | 80.0            | 76.00           | 57            | 28                  | 12               | 64            | 30                  | 16               | 64            | 40                  | 18               | 1    |
| 26    | 83.0            | 79.02           | 60            | 28                  | 12               | 67            | 30                  | 16               | 67            | 40                  | 16               | 1    |
| 27    | 86.0            | 82.04           | 80            | 28                  | 12               | 70            | 30                  | 16               | 70            | 40                  | 16               | 1    |
| 28    | 89.0            | 85.07           | 60            | 28                  | 12               | 73            | 30                  | 16               | 73            | 40                  | 16               | 1    |
| 29    | 92.0            | 88.09           | 60            | 28                  | 12               | 76            | 30                  | 16               | 76            | 40                  | 16               | 1    |
| 30    | 94.7            | 91.12           | 60            | 28                  | 12               | 79            | 30                  | 16               | 79            | 40                  | 16               | 1    |
| 31    | 98.3            | 94.15           | 65            | 30                  | 14               | 80            | 30                  | 16               | 80            | 40                  | 16               | 1    |
| 32    | 101.3           | 97.17           | 65            | 30                  | 14               | 80            | 30                  | 16               | 80            | 40                  | 16               | 1    |
| 33    | 104.3           | 100.20          | 65            | 30                  | 14               | 80            | 30                  | 16               | 80            | 40                  | 16               | 1    |
| 34    | 107.3           | 103.23          | 65            | 30                  | 14               | 90            | 30                  | 16               | 85            | 40                  | 16               | 1    |
| 35    | 110.4           | 106.26          | 65            | 30                  | 14               | 80            | 30                  | 16               | 85            | 40                  | 16               | 1    |
| 36    | 113.4           | 109.29          | 70            | 30                  | 14               | 90            | 30                  | 16               | 90            | 40                  | 16               | 1    |
| 37    | 116.4           | 112.32          | 70            | 30                  | 14               | 90            | 30                  | 16               | 90            | 40                  | 16               | 1    |
| 38    | 119.5           | 115.34          | 70            | 30                  | 14               | 90            | 30                  | 16               | 90            | 40                  | 16               | 1    |
| 39    | 122.5           | 118.37          | 70            | 30                  | 14               | 90            | 30                  | 16               | 90            | 40                  | 16               | 1    |
| 40    | 125.5           | 121.40          | 70            | 30                  | 14               | 90            | 30                  | 16               | 90            | 40                  | 16               | 1    |
| 38    | 119.5           | 115.34          | 70            | 32                  | 20               | 80            | 40                  | 20               | 90            | 56                  | 24               | 2    |
| 45    | 140.7           | 136.54          | 70            | 32                  | 20               | 80            | 40                  | 20               | 90            | 56                  | 24               | 2    |
| 57    | 176.9           | 172.91          | 70            | 32                  | 20               | 80            | 40                  | 20               | 90            | 56                  | 24               | 2    |
| 76    | 234.9           | 230.49          | 70            | 32                  | 20               | 80            | 40                  | 20               | 100           | 56                  | 24               | 2    |
| 95    | 292.5           | 288.08          | 80            | 40                  | 20               | 90            | 45                  | 20               | 100           | 56                  | 24               | 2    |
| 114   | 349.6           | 345.68          | 80            | 40                  | 20               | 95            | 45                  | 20               | 100           | 56                  | 24               | 2    |

Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

**081 1/2" x 1/8"**

| SPROCKET           | mm   | CHAIN                      | mm     |
|--------------------|------|----------------------------|--------|
| Tooth Radius $r_3$ | 13.0 | Pitch                      | 12.700 |
| Chamfer c          | 1.0  | Width Between Inner Plates | 3.300  |
| Tooth Width B1     | 3.0  | Roller Diameter            | 7.750  |

Type 1 (C45)

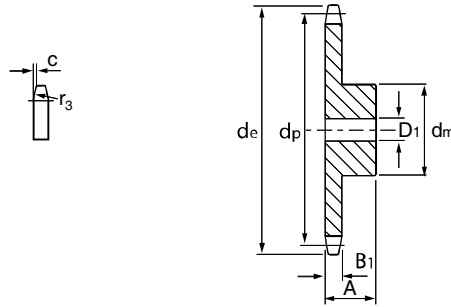
| Teeth | Outer Dia de | Pitch Dia dp | Hub Dia dm | Simplex Length thro' Bore A | Stock Bore D1 | Type |
|-------|--------------|--------------|------------|-----------------------------|---------------|------|
| 8     | 37.2         | 33.18        | 21         | 14                          | 8             | 1    |
| 9     | 41.5         | 37.13        | 25         | 14                          | 8             | 1    |
| 10    | 46.2         | 41.10        | 28         | 14                          | 8             | 1    |
| 11    | 49.6         | 45.07        | 31         | 16                          | 8             | 1    |
| 12    | 53.9         | 49.07        | 35         | 16                          | 8             | 1    |
| 13    | 58.4         | 53.06        | 39         | 16                          | 8             | 1    |
| 14    | 62.8         | 57.07        | 43         | 16                          | 8             | 1    |
| 15    | 66.8         | 61.09        | 47         | 16                          | 8             | 1    |
| 16    | 70.9         | 65.10        | 50         | 18                          | 10            | 1    |
| 17    | 74.9         | 69.11        | 50         | 18                          | 10            | 1    |
| 18    | 78.9         | 73.14        | 50         | 18                          | 10            | 1    |
| 19    | 82.9         | 77.16        | 50         | 18                          | 10            | 1    |
| 20    | 86.9         | 81.19        | 50         | 18                          | 10            | 1    |
| 21    | 91.0         | 85.22        | 60         | 20                          | 12            | 1    |
| 22    | 95.0         | 89.24        | 60         | 20                          | 12            | 1    |
| 23    | 99.0         | 93.27        | 60         | 20                          | 12            | 1    |
| 24    | 103.0        | 97.29        | 60         | 20                          | 12            | 1    |
| 25    | 107.1        | 101.33       | 60         | 20                          | 12            | 1    |
| 26    | 111.2        | 105.36       | 70         | 20                          | 16            | 1    |
| 27    | 115.4        | 109.40       | 70         | 20                          | 16            | 1    |
| 28    | 119.4        | 113.42       | 70         | 20                          | 16            | 1    |
| 29    | 123.4        | 117.46       | 70         | 20                          | 16            | 1    |
| 30    | 127.5        | 121.50       | 70         | 20                          | 16            | 1    |
| 31    | 131.5        | 125.54       | 70         | 20                          | 16            | 1    |
| 32    | 135.5        | 129.56       | 70         | 20                          | 16            | 1    |
| 33    | 139.6        | 133.60       | 70         | 20                          | 16            | 1    |
| 34    | 143.6        | 137.64       | 70         | 20                          | 16            | 1    |
| 35    | 147.6        | 141.68       | 70         | 20                          | 16            | 1    |
| 36    | 151.7        | 145.72       | 70         | 25                          | 16            | 1    |
| 37    | 155.7        | 149.76       | 70         | 25                          | 16            | 1    |
| 38    | 159.8        | 153.80       | 70         | 25                          | 16            | 1    |
| 39    | 163.8        | 157.83       | 70         | 25                          | 16            | 1    |
| 40    | 167.8        | 161.87       | 70         | 25                          | 16            | 1    |

# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

083 / 084 1/2" x 3/16"

| SPROCKET           | mm   | CHAIN                      | mm     |
|--------------------|------|----------------------------|--------|
| Tooth Radius $r_3$ | 13.0 | Pitch                      | 12.700 |
| Chamfer c          | 1.3  | Width Between Inner Plates | 4.880  |
| Tooth Width B1     | 4.5  | Roller Diameter            | 7.750  |



Type 1 (C45)

| Teeth | Outer Dia de | Pitch Dia dp | Simplex    |                     |               | Type |
|-------|--------------|--------------|------------|---------------------|---------------|------|
|       |              |              | Hub Dia dm | Length thro' Bore A | Stock Bore D1 |      |
| 8     | 38.5         | 33.18        | 21         | 14                  | 8             | 1    |
| 9     | 41.5         | 37.13        | 25         | 14                  | 8             | 1    |
| 10    | 46.2         | 41.10        | 28         | 14                  | 8             | 1    |
| 11    | 49.6         | 45.07        | 31         | 16                  | 8             | 1    |
| 12    | 53.9         | 49.07        | 35         | 16                  | 8             | 1    |
| 13    | 58.4         | 53.06        | 39         | 16                  | 8             | 1    |
| 14    | 62.8         | 57.07        | 43         | 16                  | 8             | 1    |
| 15    | 66.8         | 61.09        | 47         | 16                  | 8             | 1    |
| 16    | 70.9         | 65.10        | 50         | 18                  | 10            | 1    |
| 17    | 74.9         | 69.10        | 50         | 18                  | 10            | 1    |
| 18    | 78.9         | 73.14        | 50         | 18                  | 10            | 1    |
| 19    | 82.9         | 77.16        | 50         | 18                  | 10            | 1    |
| 20    | 86.9         | 81.19        | 50         | 18                  | 10            | 1    |
| 21    | 91.0         | 85.22        | 60         | 20                  | 12            | 1    |
| 22    | 95.0         | 89.24        | 60         | 20                  | 12            | 1    |
| 23    | 99.0         | 93.27        | 60         | 20                  | 12            | 1    |
| 24    | 103.0        | 97.29        | 60         | 20                  | 12            | 1    |
| 25    | 107.1        | 101.33       | 60         | 20                  | 12            | 1    |
| 26    | 111.2        | 105.36       | 70         | 20                  | 16            | 1    |
| 27    | 115.4        | 109.40       | 70         | 20                  | 16            | 1    |
| 28    | 119.4        | 113.42       | 70         | 20                  | 16            | 1    |
| 29    | 123.4        | 117.46       | 70         | 20                  | 16            | 1    |
| 30    | 127.5        | 121.50       | 70         | 20                  | 16            | 1    |
| 31    | 131.5        | 125.54       | 70         | 20                  | 16            | 1    |
| 32    | 135.5        | 129.56       | 70         | 20                  | 16            | 1    |
| 33    | 139.6        | 133.60       | 70         | 20                  | 16            | 1    |
| 34    | 143.6        | 137.64       | 70         | 20                  | 16            | 1    |
| 35    | 147.6        | 141.68       | 70         | 20                  | 16            | 1    |
| 36    | 151.7        | 145.72       | 70         | 25                  | 16            | 1    |
| 37    | 155.7        | 149.76       | 70         | 25                  | 16            | 1    |
| 38    | 159.8        | 153.80       | 70         | 25                  | 16            | 1    |
| 39    | 163.8        | 157.83       | 70         | 25                  | 16            | 1    |
| 40    | 167.8        | 161.87       | 70         | 25                  | 16            | 1    |

# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

**085 1/2" x 1/4"**

| SPROCKET           | mm   | CHAIN                      | mm     |
|--------------------|------|----------------------------|--------|
| Tooth Radius $r_3$ | 13.0 | Pitch                      | 12.700 |
| Chamfer c          | 1.3  | Width Between Inner Plates | 6.400  |
| Tooth Width $B_1$  | 5.9  | Roller Diameter            | 7.750  |

Type 1 (C45)

| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Hub Dia $d_m$ | Simplex Length thro' Bore A | Stock Bore $D_1$ | Type |
|-------|-----------------|-----------------|---------------|-----------------------------|------------------|------|
| 8     | 38.5            | 33.18           | 20            | 25                          | 10               | 1    |
| 9     | 41.5            | 37.13           | 24            | 25                          | 10               | 1    |
| 10    | 46.2            | 41.10           | 26            | 25                          | 10               | 1    |
| 11    | 49.6            | 45.07           | 29            | 25                          | 10               | 1    |
| 12    | 53.9            | 49.07           | 33            | 28                          | 10               | 1    |
| 13    | 58.4            | 53.06           | 37            | 28                          | 10               | 1    |
| 14    | 62.8            | 57.07           | 41            | 28                          | 10               | 1    |
| 15    | 66.8            | 61.09           | 45            | 28                          | 10               | 1    |
| 16    | 70.9            | 65.10           | 50            | 28                          | 12               | 1    |
| 17    | 74.9            | 69.11           | 52            | 28                          | 12               | 1    |
| 18    | 78.9            | 73.14           | 56            | 28                          | 12               | 1    |
| 19    | 82.9            | 77.16           | 60            | 28                          | 12               | 1    |
| 20    | 86.9            | 81.19           | 64            | 28                          | 12               | 1    |
| 21    | 91.0            | 85.22           | 68            | 28                          | 14               | 1    |
| 22    | 96.0            | 89.24           | 70            | 28                          | 14               | 1    |
| 23    | 99.0            | 93.27           | 70            | 28                          | 14               | 1    |
| 24    | 103.0           | 97.29           | 70            | 28                          | 14               | 1    |
| 25    | 107.1           | 101.33          | 70            | 28                          | 14               | 1    |
| 26    | 111.2           | 105.36          | 70            | 30                          | 16               | 1    |
| 27    | 115.4           | 109.40          | 70            | 30                          | 16               | 1    |
| 28    | 119.4           | 113.42          | 70            | 30                          | 16               | 1    |
| 29    | 123.4           | 117.46          | 80            | 30                          | 16               | 1    |
| 30    | 127.5           | 121.50          | 80            | 30                          | 16               | 1    |
| 31    | 131.5           | 125.54          | 90            | 30                          | 16               | 1    |
| 32    | 135.5           | 129.56          | 90            | 30                          | 16               | 1    |
| 33    | 139.6           | 133.60          | 90            | 30                          | 16               | 1    |
| 34    | 143.6           | 137.64          | 90            | 30                          | 16               | 1    |
| 35    | 147.6           | 141.68          | 90            | 30                          | 16               | 1    |
| 36    | 151.7           | 145.72          | 90            | 35                          | 16               | 1    |
| 37    | 155.7           | 149.76          | 90            | 35                          | 16               | 1    |
| 38    | 159.8           | 153.80          | 90            | 35                          | 16               | 1    |
| 39    | 163.8           | 157.83          | 90            | 35                          | 16               | 1    |
| 40    | 167.8           | 161.87          | 90            | 35                          | 16               | 1    |

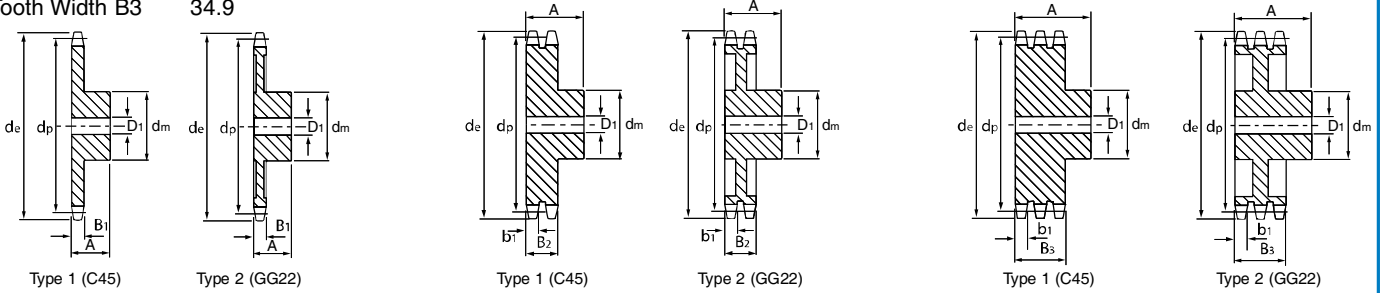
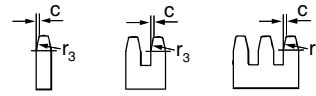
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

**08B 1/2" x 5/16"**

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 13.0 | Pitch                      | 12.700 |
| Chamfer $c$        | 1.3  | Width Between Inner Plates | 7.750  |
| Tooth Width $b_1$  | 7.0  | Roller Diameter            | 8.510  |
| Tooth Width $B_1$  | 7.2  |                            |        |
| Tooth Width $B_2$  | 21.0 |                            |        |
| Tooth Width $B_3$  | 34.9 |                            |        |



| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |                  | Duplex        |                     |                  | Triplex       |                     |                  | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ |      |
| 8     | 37.2            | 33.18           | 20            | 25                  | 10               | 20            | 32                  | 10               | 20            | 46                  | 10               | 1    |
| 9     | 41.0            | 37.13           | 24            | 25                  | 10               | 24            | 32                  | 10               | 24            | 46                  | 12               | 1    |
| 10    | 45.2            | 41.10           | 26            | 25                  | 10               | 28            | 32                  | 10               | 28            | 46                  | 12               | 1    |
| 11    | 48.7            | 45.07           | 29            | 25                  | 10               | 32            | 35                  | 12               | 32            | 50                  | 16               | 1    |
| 12    | 53.0            | 49.07           | 33            | 28                  | 10               | 35            | 35                  | 12               | 35            | 50                  | 16               | 1    |
| 13    | 57.4            | 53.06           | 37            | 28                  | 10               | 38            | 35                  | 12               | 38            | 50                  | 16               | 1    |
| 14    | 61.8            | 57.07           | 41            | 28                  | 10               | 42            | 35                  | 12               | 42            | 50                  | 16               | 1    |
| 15    | 65.5            | 61.09           | 45            | 28                  | 10               | 46            | 35                  | 12               | 46            | 50                  | 16               | 1    |
| 16    | 69.5            | 65.10           | 50            | 28                  | 12               | 50            | 38                  | 14               | 50            | 50                  | 16               | 1    |
| 17    | 73.6            | 69.11           | 52            | 28                  | 12               | 54            | 38                  | 14               | 54            | 50                  | 16               | 1    |
| 18    | 77.8            | 73.14           | 56            | 28                  | 12               | 58            | 38                  | 14               | 58            | 50                  | 16               | 1    |
| 19    | 81.7            | 77.16           | 60            | 28                  | 12               | 62            | 38                  | 14               | 62            | 50                  | 16               | 1    |
| 20    | 85.8            | 81.19           | 64            | 28                  | 12               | 66            | 38                  | 14               | 66            | 50                  | 16               | 1    |
| 21    | 89.7            | 85.22           | 68            | 28                  | 14               | 70            | 40                  | 16               | 70            | 55                  | 20               | 1    |
| 22    | 93.8            | 89.24           | 70            | 28                  | 14               | 70            | 40                  | 16               | 70            | 55                  | 20               | 1    |
| 23    | 98.2            | 93.27           | 70            | 28                  | 14               | 70            | 40                  | 16               | 70            | 55                  | 20               | 1    |
| 24    | 101.8           | 97.29           | 70            | 28                  | 14               | 75            | 40                  | 16               | 75            | 55                  | 20               | 1    |
| 25    | 105.8           | 101.33          | 70            | 28                  | 14               | 80            | 40                  | 16               | 80            | 55                  | 20               | 1    |
| 26    | 110.0           | 105.36          | 70            | 30                  | 18               | 85            | 40                  | 20               | 85            | 55                  | 20               | 1    |
| 27    | 114.0           | 109.40          | 70            | 30                  | 16               | 85            | 40                  | 20               | 85            | 55                  | 20               | 1    |
| 28    | 118.0           | 113.42          | 70            | 30                  | 16               | 90            | 40                  | 20               | 90            | 55                  | 20               | 1    |
| 29    | 122.0           | 117.46          | 80            | 30                  | 16               | 95            | 40                  | 20               | 95            | 55                  | 20               | 1    |
| 30    | 126.1           | 121.50          | 80            | 30                  | 16               | 100           | 40                  | 20               | 100           | 55                  | 20               | 1    |
| 31    | 130.2           | 125.54          | 90            | 30                  | 16               | 100           | 40                  | 20               | 110           | 55                  | 20               | 1    |
| 32    | 134.3           | 129.56          | 90            | 30                  | 16               | 100           | 40                  | 20               | 110           | 55                  | 20               | 1    |
| 33    | 138.4           | 133.60          | 90            | 30                  | 16               | 100           | 40                  | 20               | 110           | 55                  | 20               | 1    |
| 34    | 142.6           | 137.64          | 90            | 30                  | 16               | 100           | 40                  | 20               | 110           | 55                  | 20               | 1    |
| 35    | 146.7           | 141.68          | 90            | 30                  | 16               | 100           | 40                  | 20               | 110           | 55                  | 20               | 1    |
| 36    | 151.0           | 145.72          | 90            | 35                  | 20               | 100           | 40                  | 20               | 120           | 55                  | 25               | 1    |
| 37    | 154.6           | 149.76          | 90            | 35                  | 20               | 100           | 40                  | 20               | 120           | 55                  | 25               | 1    |
| 38    | 158.6           | 153.80          | 90            | 35                  | 20               | 100           | 40                  | 20               | 120           | 55                  | 25               | 1    |
| 39    | 162.7           | 157.83          | 90            | 35                  | 20               | 100           | 40                  | 20               | 120           | 55                  | 25               | 1    |
| 40    | 166.8           | 161.87          | 90            | 35                  | 20               | 100           | 40                  | 20               | 120           | 55                  | 25               | 1    |
| 38    | 158.6           | 153.80          | 70            | 40                  | 24               | 90            | 50                  | 24               | 100           | 60                  | 24               | 2    |
| 45    | 188.0           | 182.07          | 70            | 40                  | 24               | 90            | 50                  | 24               | 100           | 60                  | 24               | 2    |
| 57    | 236.4           | 230.54          | 70            | 40                  | 24               | 90            | 50                  | 24               | 100           | 60                  | 24               | 2    |
| 76    | 313.3           | 307.33          | 80            | 40                  | 24               | 100           | 56                  | 24               | 100           | 60                  | 24               | 2    |
| 95    | 390.1           | 384.11          | 80            | 45                  | 24               | 100           | 56                  | 24               | 120           | 67                  | 24               | 2    |
| 114   | 466.9           | 460.90          | 80            | 45                  | 25               | 100           | 63                  | 25               | 120           | 67                  | 25               | 2    |

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# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

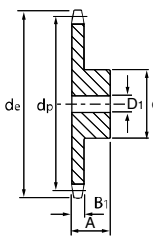
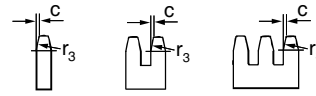
10B 5/8" x 3/8"

**SPROCKET**

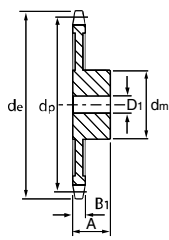
|                    |      |
|--------------------|------|
| Tooth Radius $r_3$ | 16.0 |
| Chamfer $c$        | 1.6  |
| Tooth Width $b_1$  | 9.0  |
| Tooth Width $B_1$  | 9.1  |
| Tooth Width $B_2$  | 25.5 |
| Tooth Width $B_3$  | 42.1 |

**CHAIN**

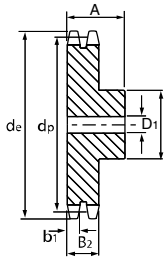
|                            |        |
|----------------------------|--------|
| Pitch                      | 15.875 |
| Width Between Inner Plates | 9.650  |
| Roller Diameter            | 10.160 |



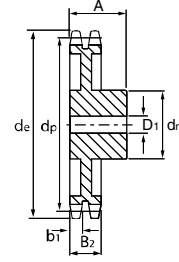
Type 1 (C45)



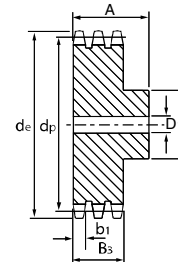
Type 2 (GG22)



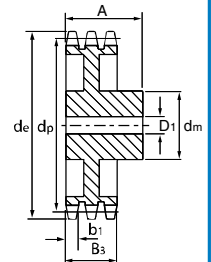
Type 1 (C45)



Type 2 (GG22)



Type 1 (C45)



Type 2 (GG22)

| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |                  | Duplex        |                     |                  | Triplex       |                     |                  | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ |      |
| 8     | 47.0            | 41.48           | 25            | 25                  | 10               | 25            | 40                  | 12               | 25            | 55                  | 12               | 1    |
| 9     | 52.6            | 46.42           | 30            | 25                  | 10               | 30            | 40                  | 12               | 30            | 55                  | 12               | 1    |
| 10    | 57.5            | 51.37           | 35            | 25                  | 10               | 35            | 40                  | 12               | 35            | 55                  | 16               | 1    |
| 11    | 63.0            | 56.34           | 37            | 30                  | 12               | 39            | 40                  | 14               | 39            | 55                  | 16               | 1    |
| 12    | 68.0            | 61.34           | 42            | 30                  | 12               | 44            | 40                  | 14               | 44            | 55                  | 16               | 1    |
| 13    | 73.0            | 66.32           | 47            | 30                  | 12               | 49            | 40                  | 14               | 49            | 55                  | 16               | 1    |
| 14    | 78.0            | 71.34           | 52            | 30                  | 12               | 54            | 40                  | 14               | 54            | 55                  | 16               | 1    |
| 15    | 83.0            | 76.36           | 57            | 30                  | 12               | 59            | 40                  | 14               | 59            | 55                  | 16               | 1    |
| 16    | 88.0            | 81.37           | 60            | 30                  | 14               | 64            | 45                  | 16               | 64            | 60                  | 16               | 1    |
| 17    | 93.0            | 86.39           | 60            | 30                  | 14               | 69            | 45                  | 16               | 69            | 60                  | 16               | 1    |
| 18    | 98.3            | 91.42           | 70            | 30                  | 14               | 74            | 45                  | 16               | 74            | 60                  | 16               | 1    |
| 19    | 103.3           | 96.45           | 70            | 30                  | 14               | 79            | 45                  | 16               | 79            | 60                  | 16               | 1    |
| 20    | 108.4           | 101.49          | 75            | 30                  | 14               | 84            | 45                  | 16               | 84            | 60                  | 16               | 1    |
| 21    | 113.4           | 106.52          | 75            | 30                  | 16               | 85            | 45                  | 16               | 85            | 60                  | 20               | 1    |
| 22    | 118.0           | 111.55          | 80            | 30                  | 16               | 90            | 45                  | 16               | 90            | 60                  | 20               | 1    |
| 23    | 123.4           | 116.58          | 80            | 30                  | 16               | 95            | 45                  | 16               | 95            | 60                  | 20               | 1    |
| 24    | 128.3           | 121.62          | 80            | 30                  | 16               | 100           | 45                  | 16               | 100           | 60                  | 20               | 1    |
| 25    | 134.0           | 126.66          | 80            | 30                  | 16               | 105           | 45                  | 16               | 105           | 60                  | 20               | 1    |
| 26    | 139.0           | 131.70          | 85            | 35                  | 20               | 110           | 45                  | 20               | 110           | 60                  | 20               | 1    |
| 27    | 144.0           | 136.75          | 85            | 35                  | 20               | 110           | 45                  | 20               | 110           | 60                  | 20               | 1    |
| 28    | 148.7           | 141.78          | 90            | 35                  | 20               | 115           | 45                  | 20               | 115           | 60                  | 20               | 1    |
| 29    | 153.8           | 146.83          | 90            | 35                  | 20               | 115           | 45                  | 20               | 115           | 60                  | 20               | 1    |
| 30    | 158.8           | 151.87          | 90            | 35                  | 20               | 120           | 46                  | 20               | 120           | 60                  | 20               | 1    |
| 31    | 163.9           | 156.92          | 95            | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 20               | 1    |
| 32    | 168.9           | 161.95          | 95            | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 20               | 1    |
| 33    | 174.5           | 167.00          | 95            | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 20               | 1    |
| 34    | 179.0           | 172.05          | 95            | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 20               | 1    |
| 35    | 184.1           | 177.10          | 95            | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 20               | 1    |
| 36    | 189.1           | 182.15          | 100           | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 25               | 1    |
| 37    | 194.2           | 187.20          | 100           | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 25               | 1    |
| 38    | 199.2           | 192.24          | 100           | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 25               | 1    |
| 39    | 204.2           | 197.29          | 100           | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 25               | 1    |
| 40    | 209.3           | 202.34          | 100           | 35                  | 20               | 120           | 45                  | 20               | 120           | 60                  | 25               | 1    |
| 38    | 199.2           | 192.24          | 80            | 40                  | 24               | 100           | 50                  | 30               | 100           | 60                  | 32               | 2    |
| 45    | 235.0           | 227.58          | 80            | 40                  | 24               | 100           | 50                  | 30               | 100           | 60                  | 32               | 2    |
| 57    | 296.0           | 288.18          | 90            | 45                  | 24               | 100           | 56                  | 30               | 100           | 63                  | 32               | 2    |
| 76    | 392.1           | 384.16          | 90            | 50                  | 24               | 100           | 63                  | 30               | 110           | 67                  | 35               | 2    |
| 95    | 488.5           | 480.14          | 100           | 56                  | 24               | 110           | 63                  | 30               | 125           | 70                  | 35               | 2    |
| 114   | 584.1           | 576.13          | 100           | 56                  | 25               | 125           | 70                  | 30               | 125           | 80                  | 35               | 2    |

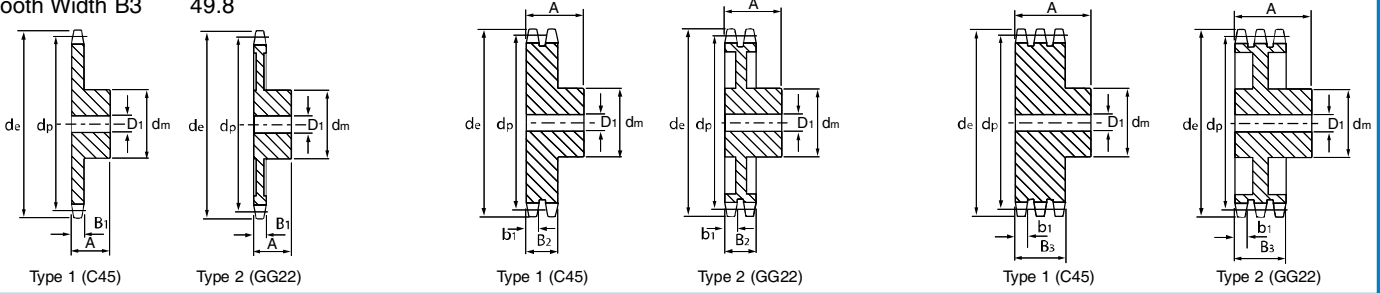
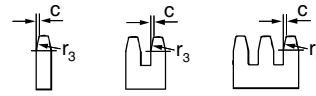
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

**12B 3/4" x 7/16"**

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 19.0 | Pitch                      | 19.050 |
| Chamfer $c$        | 2.0  | Width Between Inner Plates | 11.680 |
| Tooth Width $b_1$  | 10.8 | Roller Diameter            | 12.070 |
| Tooth Width $B_1$  | 11.1 |                            |        |
| Tooth Width $B_2$  | 30.3 |                            |        |
| Tooth Width $B_3$  | 49.8 |                            |        |



| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |                  | Duplex        |                     |                  | Triplex       |                     |                  | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ |      |
| 8     | 57.6            | 49.78           | 31            | 30                  | 12               | 31            | 45                  | 12               | 31            | 65                  | 16               | 1    |
| 9     | 62.0            | 55.70           | 37            | 30                  | 12               | 37            | 45                  | 12               | 37            | 65                  | 16               | 1    |
| 10    | 69.0            | 61.64           | 42            | 30                  | 12               | 42            | 45                  | 12               | 42            | 65                  | 16               | 1    |
| 11    | 75.0            | 67.61           | 46            | 35                  | 14               | 47            | 50                  | 16               | 47            | 70                  | 20               | 1    |
| 12    | 81.5            | 73.60           | 52            | 35                  | 14               | 53            | 50                  | 16               | 53            | 70                  | 20               | 1    |
| 13    | 87.5            | 79.59           | 58            | 35                  | 14               | 59            | 50                  | 16               | 59            | 70                  | 20               | 1    |
| 14    | 93.6            | 85.61           | 64            | 35                  | 14               | 65            | 50                  | 16               | 65            | 70                  | 20               | 1    |
| 15    | 99.8            | 91.63           | 70            | 35                  | 14               | 71            | 50                  | 16               | 71            | 70                  | 20               | 1    |
| 16    | 105.5           | 97.65           | 75            | 35                  | 16               | 77            | 50                  | 20               | 77            | 70                  | 20               | 1    |
| 17    | 111.5           | 103.67          | 80            | 35                  | 16               | 83            | 50                  | 20               | 83            | 70                  | 20               | 1    |
| 18    | 118.0           | 109.71          | 80            | 35                  | 16               | 89            | 50                  | 20               | 89            | 70                  | 20               | 1    |
| 19    | 124.2           | 115.75          | 80            | 35                  | 16               | 95            | 50                  | 20               | 95            | 70                  | 20               | 1    |
| 20    | 129.7           | 121.78          | 80            | 35                  | 16               | 100           | 50                  | 20               | 100           | 70                  | 20               | 1    |
| 21    | 136.0           | 127.82          | 90            | 40                  | 20               | 100           | 50                  | 20               | 100           | 70                  | 20               | 1    |
| 22    | 141.8           | 133.86          | 90            | 40                  | 20               | 100           | 50                  | 20               | 100           | 70                  | 20               | 1    |
| 23    | 149.0           | 139.90          | 90            | 40                  | 20               | 110           | 50                  | 20               | 110           | 70                  | 20               | 1    |
| 24    | 153.9           | 145.94          | 90            | 40                  | 20               | 110           | 50                  | 20               | 110           | 70                  | 20               | 1    |
| 25    | 160.0           | 152.00          | 90            | 40                  | 20               | 120           | 50                  | 20               | 120           | 70                  | 20               | 1    |
| 26    | 165.9           | 158.04          | 95            | 40                  | 20               | 120           | 50                  | 20               | 120           | 70                  | 20               | 1    |
| 27    | 172.3           | 164.09          | 95            | 40                  | 20               | 120           | 50                  | 20               | 120           | 70                  | 20               | 1    |
| 28    | 178.0           | 170.13          | 95            | 40                  | 20               | 120           | 50                  | 20               | 120           | 70                  | 20               | 1    |
| 29    | 184.1           | 176.19          | 95            | 40                  | 20               | 120           | 50                  | 20               | 120           | 70                  | 20               | 1    |
| 30    | 190.5           | 182.25          | 95            | 40                  | 20               | 120           | 50                  | 20               | 120           | 70                  | 20               | 1    |
| 31    | 196.3           | 188.31          | 100           | 40                  | 20               | 120           | 50                  | 20               | 130           | 70                  | 25               | 1    |
| 32    | 203.3           | 194.35          | 100           | 40                  | 20               | 120           | 50                  | 20               | 130           | 70                  | 25               | 1    |
| 33    | 209.3           | 200.40          | 100           | 40                  | 20               | 120           | 50                  | 20               | 130           | 70                  | 25               | 1    |
| 34    | 214.6           | 206.46          | 100           | 40                  | 20               | 120           | 50                  | 20               | 130           | 70                  | 25               | 1    |
| 35    | 221.0           | 212.52          | 100           | 40                  | 20               | 120           | 50                  | 20               | 130           | 70                  | 25               | 1    |
| 36    | 226.8           | 218.58          | 100           | 40                  | 25               | 120           | 50                  | 25               | 130           | 70                  | 25               | 1    |
| 37    | 232.9           | 224.64          | 100           | 40                  | 25               | 120           | 50                  | 25               | 130           | 70                  | 25               | 1    |
| 38    | 239.0           | 230.69          | 100           | 40                  | 25               | 120           | 50                  | 25               | 130           | 70                  | 25               | 1    |
| 39    | 245.1           | 236.75          | 100           | 40                  | 25               | 120           | 50                  | 25               | 130           | 70                  | 25               | 1    |
| 40    | 251.3           | 242.81          | 100           | 40                  | 25               | 120           | 50                  | 25               | 130           | 70                  | 25               | 1    |
| 38    | 239.0           | 230.69          | 100           | 56                  | 24               | 110           | 63                  | 30               | 140           | 70                  | 30               | 2    |
| 45    | 282.5           | 273.10          | 100           | 56                  | 24               | 110           | 63                  | 30               | 140           | 70                  | 30               | 2    |
| 57    | 355.4           | 345.81          | 100           | 56                  | 30               | 120           | 63                  | 30               | 140           | 70                  | 40               | 2    |
| 76    | 469.9           | 460.99          | 100           | 56                  | 30               | 135           | 63                  | 30               | 160           | 75                  | 40               | 2    |
| 95    | 585.1           | 576.17          | 100           | 65                  | 30               | 135           | 70                  | 30               | 170           | 82                  | 40               | 2    |
| 114   | 700.6           | 691.36          | 100           | 65                  | 30               | 135           | 70                  | 30               | 170           | 82                  | 40               | 2    |

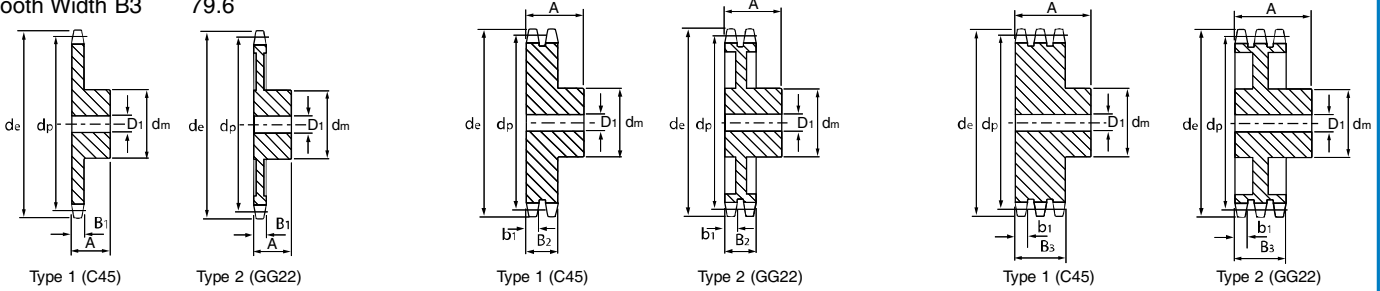
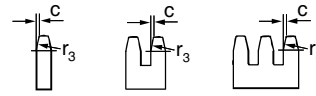
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# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

16B 1" x 17.02 mm

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 26.0 | Pitch                      | 25.400 |
| Chamfer c          | 2.5  | Width Between Inner Plates | 17.020 |
| Tooth Width $b_1$  | 15.8 | Roller Diameter            | 15.880 |
| Tooth Width $B_1$  | 16.2 |                            |        |
| Tooth Width $B_2$  | 47.7 |                            |        |
| Tooth Width $B_3$  | 79.6 |                            |        |



| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |                  | Duplex        |                     |                  | Triplex       |                     |                  | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ |      |
| 8     | 77.0            | 66.37           | 42            | 35                  | 16               | 42            | 65                  | 16               | 42            | 95                  | 20               | 1    |
| 9     | 85.0            | 74.27           | 50            | 35                  | 16               | 50            | 65                  | 16               | 50            | 95                  | 20               | 1    |
| 10    | 93.0            | 82.19           | 55            | 35                  | 16               | 56            | 65                  | 16               | 56            | 95                  | 20               | 1    |
| 11    | 99.5            | 90.14           | 61            | 40                  | 16               | 64            | 70                  | 20               | 64            | 100                 | 25               | 1    |
| 12    | 109.0           | 98.14           | 69            | 40                  | 16               | 72            | 70                  | 20               | 72            | 100                 | 25               | 1    |
| 13    | 117.0           | 106.12          | 78            | 40                  | 16               | 80            | 70                  | 20               | 80            | 100                 | 25               | 1    |
| 14    | 125.0           | 114.15          | 84            | 40                  | 16               | 88            | 70                  | 20               | 88            | 100                 | 25               | 1    |
| 15    | 133.0           | 122.17          | 92            | 40                  | 16               | 96            | 70                  | 20               | 96            | 100                 | 25               | 1    |
| 16    | 141.0           | 130.20          | 100           | 45                  | 20               | 104           | 70                  | 25               | 104           | 100                 | 30               | 1    |
| 17    | 149.0           | 138.22          | 100           | 45                  | 20               | 112           | 70                  | 25               | 112           | 100                 | 30               | 1    |
| 18    | 157.0           | 146.28          | 100           | 45                  | 20               | 120           | 70                  | 25               | 120           | 100                 | 30               | 1    |
| 19    | 165.2           | 154.33          | 100           | 45                  | 20               | 128           | 70                  | 25               | 128           | 100                 | 30               | 1    |
| 20    | 173.2           | 162.38          | 100           | 45                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 21    | 181.2           | 170.43          | 110           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 22    | 189.3           | 178.48          | 110           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 23    | 197.5           | 186.53          | 110           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 24    | 205.5           | 194.59          | 110           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 25    | 213.5           | 202.66          | 110           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 26    | 221.6           | 210.72          | 120           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 27    | 229.6           | 218.79          | 120           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 28    | 237.7           | 226.85          | 120           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 29    | 245.8           | 234.92          | 120           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 30    | 254.0           | 243.00          | 120           | 50                  | 20               | 130           | 70                  | 25               | 130           | 100                 | 30               | 1    |
| 31    | 262.0           | 251.08          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 32    | 270.0           | 259.13          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 33    | 278.5           | 267.21          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 34    | 287.0           | 275.28          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 35    | 296.2           | 283.36          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 36    | 304.6           | 291.44          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 37    | 312.6           | 299.51          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 38    | 320.7           | 307.59          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 39    | 328.8           | 315.67          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 40    | 336.9           | 323.75          | 120           | 50                  | 25               | 140           | 70                  | 25               | 140           | 100                 | 30               | 1    |
| 30    | 254.0           | 243.00          | 110           | 65                  | 30               | 125           | 75                  | 40               | 145           | 90                  | 40               | 2    |
| 38    | 320.0           | 307.59          | 110           | 65                  | 30               | 140           | 75                  | 40               | 160           | 100                 | 45               | 2    |
| 45    | 377.0           | 364.12          | 125           | 70                  | 30               | 150           | 75                  | 40               | 160           | 100                 | 45               | 2    |
| 57    | 474.0           | 461.07          | 125           | 70                  | 35               | 170           | 90                  | 40               | 165           | 100                 | 45               | 2    |
| 76    | 627.0           | 614.65          | 140           | 80                  | 35               | 175           | 95                  | 40               | 200           | 110                 | 45               | 2    |
| 95    | 781.0           | 768.22          | 140           | 80                  | 40               | 175           | 95                  | 45               | 200           | 110                 | 50               | 2    |

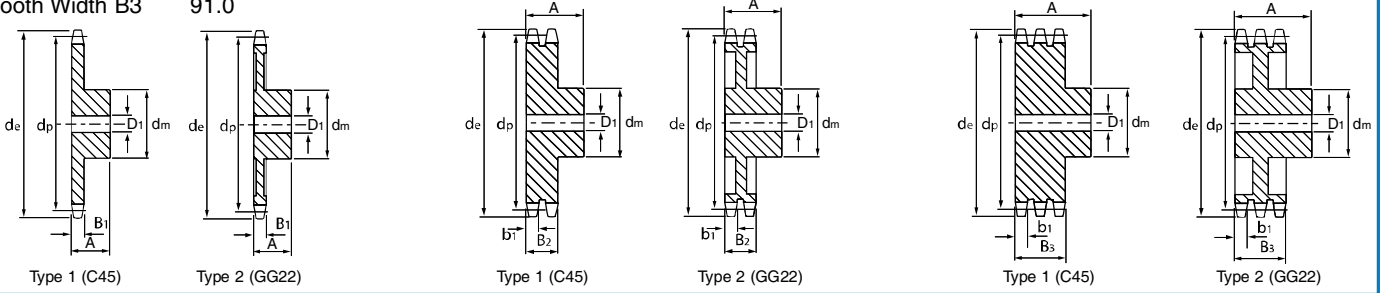
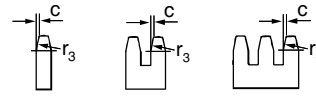
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

**20B 1.1/4" x 3/4"**

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 32.0 | Pitch                      | 31.750 |
| Chamfer $c$        | 3.5  | Width Between Inner Plates | 19.560 |
| Tooth Width $b_1$  | 18.2 | Roller Diameter            | 19.050 |
| Tooth Width $B_1$  | 18.5 |                            |        |
| Tooth Width $B_2$  | 54.6 |                            |        |
| Tooth Width $B_3$  | 91.0 |                            |        |



| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |                  | Duplex        |                     |                  | Triplex       |                     |                  | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ |      |
| 8     | 98.1            | 82.96           | 53            | 40                  | 20               | 53            | 75                  | 20               | 53            | 110                 | 25               | 1    |
| 9     | 108.0           | 92.84           | 63            | 40                  | 20               | 63            | 75                  | 20               | 63            | 110                 | 25               | 1    |
| 10    | 117.9           | 102.74          | 70            | 40                  | 20               | 70            | 75                  | 20               | 70            | 110                 | 25               | 1    |
| 11    | 127.8           | 112.68          | 77            | 45                  | 20               | 80            | 80                  | 25               | 80            | 115                 | 30               | 1    |
| 12    | 137.8           | 122.68          | 88            | 45                  | 20               | 90            | 80                  | 25               | 90            | 115                 | 30               | 1    |
| 13    | 147.8           | 132.65          | 98            | 45                  | 20               | 100           | 80                  | 25               | 100           | 115                 | 30               | 1    |
| 14    | 157.8           | 142.68          | 108           | 45                  | 20               | 110           | 80                  | 25               | 110           | 115                 | 30               | 1    |
| 15    | 167.9           | 152.72          | 118           | 45                  | 20               | 120           | 80                  | 25               | 120           | 115                 | 30               | 1    |
| 16    | 177.9           | 162.75          | 120           | 50                  | 25               | 120           | 80                  | 30               | 120           | 115                 | 30               | 1    |
| 17    | 187.9           | 172.78          | 120           | 50                  | 25               | 120           | 80                  | 30               | 120           | 115                 | 30               | 1    |
| 18    | 198.0           | 182.85          | 120           | 50                  | 25               | 120           | 80                  | 30               | 120           | 115                 | 30               | 1    |
| 19    | 208.1           | 192.91          | 120           | 50                  | 25               | 120           | 80                  | 30               | 120           | 115                 | 30               | 1    |
| 20    | 218.1           | 202.98          | 120           | 50                  | 25               | 120           | 80                  | 30               | 120           | 115                 | 30               | 1    |
| 21    | 228.2           | 213.04          | 140           | 55                  | 30               | 140           | 80                  | 30               | 140           | 115                 | 30               | 1    |
| 22    | 238.3           | 223.11          | 140           | 55                  | 30               | 140           | 80                  | 30               | 140           | 115                 | 30               | 1    |
| 23    | 248.3           | 233.17          | 140           | 55                  | 30               | 140           | 80                  | 30               | 140           | 115                 | 30               | 1    |
| 24    | 258.4           | 243.23          | 140           | 55                  | 30               | 140           | 80                  | 30               | 140           | 115                 | 30               | 1    |
| 25    | 268.5           | 253.33          | 140           | 55                  | 30               | 140           | 80                  | 30               | 140           | 115                 | 30               | 1    |
| 26    | 278.6           | 263.40          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 27    | 288.6           | 273.80          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 28    | 298.7           | 283.56          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 29    | 308.8           | 293.65          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 30    | 318.9           | 303.75          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 31    | 329.0           | 313.85          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 32    | 339.1           | 323.91          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 33    | 349.2           | 334.01          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 34    | 359.3           | 334.10          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 35    | 369.4           | 354.20          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 36    | 379.5           | 364.30          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 37    | 389.5           | 374.39          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 38    | 399.6           | 384.49          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 39    | 409.7           | 394.59          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 40    | 419.8           | 404.66          | 150           | 55                  | 30               | 150           | 80                  | 30               | 150           | 115                 | 30               | 1    |
| 30    | 318.9           | 303.75          | 115           | 70                  | 35               | 130           | 80                  | 40               | 160           | 100                 | 50               | 2    |
| 38    | 399.6           | 384.49          | 125           | 70                  | 35               | 140           | 90                  | 45               | 180           | 110                 | 56               | 2    |
| 45    | 470.3           | 455.17          | 125           | 70                  | 35               | 140           | 90                  | 45               | 180           | 110                 | 56               | 2    |
| 57    | 591.5           | 576.36          | 135           | 80                  | 40               | 160           | 100                 | 50               | 180           | 125                 | 63               | 2    |
| 76    | 783.5           | 768.32          | 140           | 90                  | 50               | 180           | 100                 | 56               | 200           | 140                 | 63               | 2    |

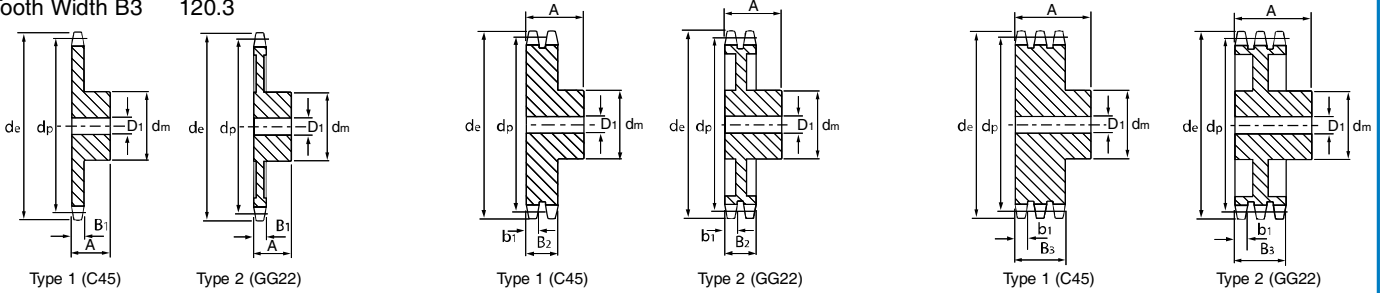
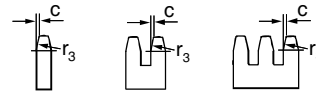
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# Pilot Bore Sprockets

## BS Pilot Bore Sprockets

24B 1.1/2" x 1"

| SPROCKET           |       | CHAIN                      |        |
|--------------------|-------|----------------------------|--------|
|                    | mm    |                            | mm     |
| Tooth Radius $r_3$ | 38.0  | Pitch                      | 38.100 |
| Chamfer $c$        | 4.0   | Width Between Inner Plates | 25.400 |
| Tooth Width $b_1$  | 23.6  | Roller Diameter            | 25.400 |
| Tooth Width $B_1$  | 24.1  |                            |        |
| Tooth Width $B_2$  | 72.0  |                            |        |
| Tooth Width $B_3$  | 120.3 |                            |        |



| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |                  | Duplex        |                     |                  | Triplex       |                     |                  | Type |
|-------|-----------------|-----------------|---------------|---------------------|------------------|---------------|---------------------|------------------|---------------|---------------------|------------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore $D_1$ |      |
| 8     | 115.0           | 99.55           | 58            | 45                  | 20               | 58            | 95                  | 25               | 58            | 140                 | 25               | 1    |
| 9     | 126.4           | 111.40          | 70            | 45                  | 20               | 70            | 95                  | 25               | 70            | 140                 | 25               | 1    |
| 10    | 138.0           | 123.29          | 80            | 45                  | 20               | 80            | 95                  | 25               | 80            | 140                 | 25               | 1    |
| 11    | 150.0           | 135.21          | 90            | 50                  | 25               | 90            | 100                 | 25               | 90            | 150                 | 30               | 1    |
| 12    | 162.0           | 147.22          | 102           | 50                  | 25               | 102           | 100                 | 25               | 102           | 150                 | 30               | 1    |
| 13    | 174.2           | 159.18          | 114           | 50                  | 25               | 114           | 100                 | 25               | 114           | 150                 | 30               | 1    |
| 14    | 186.2           | 171.22          | 128           | 50                  | 25               | 128           | 100                 | 25               | 128           | 150                 | 30               | 1    |
| 15    | 198.2           | 183.26          | 140           | 50                  | 25               | 140           | 100                 | 25               | 132           | 150                 | 30               | 1    |
| 16    | 210.3           | 195.30          | 140           | 55                  | 25               | 140           | 100                 | 30               | 136           | 150                 | 30               | 1    |
| 17    | 222.3           | 207.34          | 140           | 55                  | 25               | 150           | 100                 | 30               | 140           | 150                 | 30               | 1    |
| 18    | 234.3           | 219.42          | 140           | 55                  | 25               | 150           | 100                 | 30               | 150           | 150                 | 30               | 1    |
| 19    | 246.5           | 231.49          | 140           | 55                  | 25               | 160           | 100                 | 30               | 160           | 150                 | 30               | 1    |
| 20    | 258.6           | 243.57          | 140           | 55                  | 25               | 160           | 100                 | 30               | 160           | 150                 | 30               | 1    |
| 21    | 270.6           | 255.65          | 150           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 22    | 282.7           | 267.73          | 150           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 23    | 294.8           | 279.80          | 150           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 24    | 306.8           | 291.88          | 150           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 25    | 319.0           | 304.00          | 150           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 26    | 331.0           | 316.08          | 160           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 27    | 343.2           | 328.19          | 160           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 28    | 355.2           | 340.27          | 160           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 29    | 367.3           | 352.38          | 160           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 30    | 379.5           | 364.50          | 160           | 60                  | 30               | 160           | 100                 | 30               | 160           | 150                 | 40               | 1    |
| 31    | 391.6           | 376.62          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 32    | 403.7           | 388.69          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 33    | 415.8           | 400.81          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 34    | 427.8           | 412.93          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 35    | 440.0           | 425.04          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 36    | 452.0           | 437.16          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 37    | 464.2           | 449.27          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 38    | 476.2           | 461.39          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 39    | 488.5           | 473.50          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 40    | 500.6           | 485.62          | 160           | 60                  | 30               | 160           | 100                 | 40               | 160           | 150                 | 40               | 1    |
| 30    | 379.5           | 364.50          | 130           | 85                  | 40               | 160           | 95                  | 40               | 180           | 150                 | 60               | 2    |
| 38    | 476.2           | 461.39          | 140           | 90                  | 45               | 180           | 100                 | 45               | 200           | 150                 | 60               | 2    |
| 45    | 561.2           | 546.20          | 140           | 90                  | 45               | 180           | 100                 | 45               | 200           | 150                 | 60               | 2    |
| 57    | 706.5           | 691.63          | 160           | 100                 | 45               | 200           | 110                 | 55               | 200           | 150                 | 70               | 2    |
| 76    | 936.9           | 921.98          | 170           | 100                 | 45               | 220           | 120                 | 55               | -             | -                   | -                | 2    |
| 95    | 1167.3          | 1152.33         | 200           | 125                 | 50               | 220           | 140                 | 55               | -             | -                   | -                | 2    |

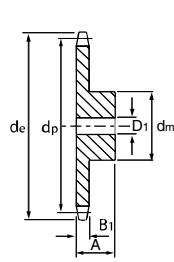
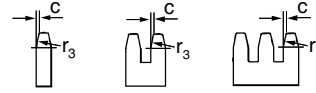
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# Pilot Bore Sprockets

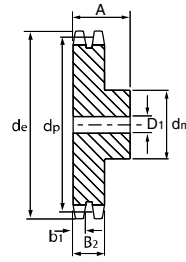
## BS Pilot Bore Sprockets

**28B 1.3/4" x 1.1/4**

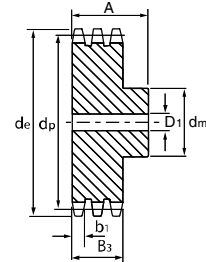
| SPROCKET           |       | CHAIN                      |        |
|--------------------|-------|----------------------------|--------|
|                    | mm    |                            | mm     |
| Tooth Radius $r_3$ | 44.0  | Pitch                      | 44.450 |
| Chamfer c          | 5.0   | Width Between Inner Plates | 30.990 |
| Tooth Width $b_1$  | 28.8  | Roller Diameter            | 27.940 |
| Tooth Width $B_1$  | 29.4  |                            |        |
| Tooth Width $B_2$  | 88.4  |                            |        |
| Tooth Width $B_3$  | 148.0 |                            |        |



Type 1 (C45)



Type 1 (C45)



Type 1 (C45)

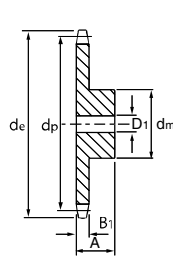
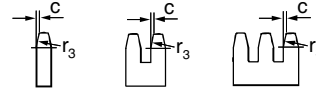
| Teeth | Outer Dia<br>de | Pitch Dia<br>dp | Simplex       |                        |                  | Duplex        |                        |                  | Triplex       |                        |                  | Type |
|-------|-----------------|-----------------|---------------|------------------------|------------------|---------------|------------------------|------------------|---------------|------------------------|------------------|------|
|       |                 |                 | Hub Dia<br>dm | Length thro' Bore<br>A | Stock Bore<br>D1 | Hub Dia<br>dm | Length thro' Bore<br>A | Stock Bore<br>D1 | Hub Dia<br>dm | Length thro' Bore<br>A | Stock Bore<br>D1 |      |
| 8     | 132.0           | 116.15          | 74            | 70                     | 25               | 74            | 120                    | 30               | 74            | 180                    | 30               | 1    |
| 9     | 148.4           | 129.96          | 88            | 70                     | 25               | 88            | 120                    | 30               | 88            | 180                    | 30               | 1    |
| 10    | 162.3           | 143.85          | 100           | 70                     | 25               | 100           | 120                    | 30               | 100           | 180                    | 30               | 1    |
| 11    | 176.3           | 157.77          | 112           | 70                     | 25               | 112           | 120                    | 30               | 112           | 180                    | 30               | 1    |
| 12    | 189.3           | 171.74          | 125           | 70                     | 25               | 125           | 120                    | 30               | 125           | 180                    | 30               | 1    |
| 13    | 204.2           | 185.75          | 125           | 70                     | 25               | 125           | 120                    | 30               | 125           | 180                    | 30               | 1    |
| 14    | 218.2           | 199.76          | 130           | 70                     | 25               | 130           | 120                    | 30               | 160           | 180                    | 30               | 1    |
| 15    | 232.3           | 213.79          | 145           | 70                     | 25               | 145           | 120                    | 30               | 145           | 180                    | 30               | 1    |
| 16    | 246.3           | 227.84          | 160           | 75                     | 30               | 160           | 120                    | 30               | 160           | 180                    | 30               | 1    |
| 17    | 260.0           | 241.90          | 160           | 75                     | 30               | 160           | 120                    | 30               | 160           | 180                    | 30               | 1    |
| 18    | 274.0           | 255.98          | 160           | 75                     | 30               | 160           | 120                    | 30               | 160           | 180                    | 30               | 1    |
| 19    | 289.0           | 270.06          | 160           | 75                     | 30               | 180           | 120                    | 30               | 180           | 180                    | 30               | 1    |
| 20    | 303.0           | 284.15          | 160           | 75                     | 30               | 180           | 120                    | 30               | 180           | 180                    | 30               | 1    |
| 21    | 317.0           | 298.24          | 170           | 75                     | 30               | 180           | 120                    | 30               | 180           | 180                    | 40               | 1    |
| 22    | 331.0           | 312.34          | 170           | 75                     | 30               | 180           | 120                    | 30               | 180           | 180                    | 40               | 1    |
| 23    | 345.0           | 326.44          | 170           | 75                     | 30               | 180           | 120                    | 30               | 180           | 180                    | 40               | 1    |
| 24    | 359.0           | 340.55          | 170           | 75                     | 30               | 180           | 120                    | 30               | 180           | 180                    | 40               | 1    |
| 25    | 373.0           | 354.66          | 170           | 75                     | 30               | 180           | 120                    | 30               | 180           | 180                    | 40               | 1    |
| 26    | 387.0           | 368.77          | 170           | 75                     | 30               | 180           | 120                    | 40               | 180           | 180                    | 40               | 1    |
| 27    | 401.0           | 382.88          | 170           | 75                     | 30               | 180           | 120                    | 40               | 180           | 180                    | 40               | 1    |
| 28    | 416.0           | 397.00          | 170           | 75                     | 30               | 180           | 120                    | 40               | 180           | 180                    | 40               | 1    |
| 29    | 430.0           | 411.12          | 170           | 75                     | 30               | 180           | 120                    | 40               | 180           | 180                    | 40               | 1    |
| 30    | 444.0           | 425.24          | 170           | 75                     | 30               | 180           | 120                    | 40               | 180           | 180                    | 40               | 1    |
| 31    | 458.0           | 439.37          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 32    | 472.0           | 453.49          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 33    | 486.0           | 467.62          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 34    | 500.0           | 481.75          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 35    | 514.0           | 495.88          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 36    | 529.0           | 510.01          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 37    | 543.0           | 524.13          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 38    | 557.0           | 538.27          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 39    | 571.0           | 552.40          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |
| 40    | 585.0           | 566.54          | 180           | 75                     | 30               | 200           | 120                    | 40               | 200           | 180                    | 40               | 1    |

# Pilot Bore Sprockets

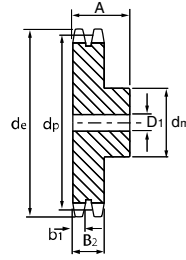
## BS Pilot Bore Sprockets

32B 2" x 1.1/4"

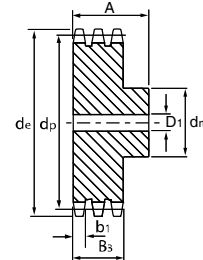
| SPROCKET           |       | CHAIN                      |        |
|--------------------|-------|----------------------------|--------|
|                    | mm    |                            | mm     |
| Tooth Radius $r_3$ | 51.0  | Pitch                      | 50.800 |
| Chamfer c          | 6.0   | Width Between Inner Plates | 30.990 |
| Tooth Width $b_1$  | 28.8  | Roller Diameter            | 29.210 |
| Tooth Width $B_1$  | 29.4  |                            |        |
| Tooth Width $B_2$  | 87.4  |                            |        |
| Tooth Width $B_3$  | 146.0 |                            |        |



Type 1 (C45)



Type 1 (C45)



Type 1 (C45)

| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex       |                     |               | Duplex        |                     |               | Triplex       |                     |               | Type |
|-------|-----------------|-----------------|---------------|---------------------|---------------|---------------|---------------------|---------------|---------------|---------------------|---------------|------|
|       |                 |                 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore D1 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore D1 | Hub Dia $d_m$ | Length thro' Bore A | Stock Bore D1 |      |
| 8     | 153.2           | 132.74          | 85            | 80                  | 30            | 85            | 120                 | 30            | 85            | 180                 | 30            | 1    |
| 9     | 169.0           | 148.54          | 100           | 80                  | 30            | 100           | 120                 | 30            | 100           | 180                 | 30            | 1    |
| 10    | 185.0           | 164.39          | 115           | 80                  | 30            | 115           | 120                 | 30            | 115           | 180                 | 30            | 1    |
| 11    | 200.8           | 180.31          | 125           | 80                  | 30            | 125           | 120                 | 35            | 125           | 180                 | 35            | 1    |
| 12    | 216.8           | 196.29          | 133           | 80                  | 30            | 133           | 120                 | 35            | 133           | 180                 | 35            | 1    |
| 13    | 232.8           | 212.29          | 145           | 80                  | 30            | 145           | 120                 | 35            | 145           | 180                 | 35            | 1    |
| 14    | 248.8           | 228.29          | 155           | 80                  | 30            | 155           | 120                 | 35            | 155           | 180                 | 35            | 1    |
| 15    | 264.8           | 244.30          | 160           | 80                  | 30            | 160           | 120                 | 35            | 160           | 180                 | 35            | 1    |
| 16    | 280.9           | 260.40          | 160           | 90                  | 30            | 160           | 120                 | 40            | 160           | 180                 | 40            | 1    |
| 17    | 296.9           | 276.46          | 170           | 90                  | 30            | 180           | 120                 | 40            | 180           | 180                 | 40            | 1    |
| 18    | 313.0           | 292.55          | 170           | 90                  | 30            | 180           | 120                 | 40            | 180           | 180                 | 40            | 1    |
| 19    | 329.1           | 308.66          | 170           | 90                  | 30            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 20    | 345.2           | 324.71          | 180           | 90                  | 30            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 21    | 361.3           | 340.82          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 22    | 377.5           | 356.98          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 23    | 393.6           | 373.08          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 24    | 409.7           | 389.18          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 25    | 425.8           | 405.33          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 26    | 441.9           | 421.44          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 27    | 458.1           | 437.59          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 28    | 474.2           | 453.69          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 29    | 492.0           | 469.85          | 180           | 90                  | 40            | -             | -                   | -             | -             | -                   | -             | 1    |
| 30    | 506.5           | 486.00          | 180           | 90                  | 40            | 200           | 120                 | 40            | 200           | 180                 | 40            | 1    |
| 32    | 538.8           | 518.27          | 180           | 90                  | 40            | -             | -                   | -             | -             | -                   | -             | 1    |
| 35    | 589.5           | 566.71          | 180           | 90                  | 40            | -             | -                   | -             | -             | -                   | -             | 1    |
| 38    | 635.5           | 615.16          | 180           | 90                  | 40            | -             | -                   | -             | -             | -                   | -             | 1    |
| 40    | 670.3           | 647.47          | 180           | 90                  | 40            | -             | -                   | -             | -             | -                   | -             | 1    |

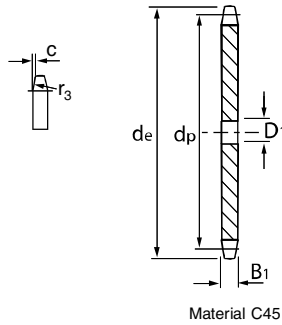
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

**03B 5 x 2.5 mm**

| SPROCKET           | mm  | CHAIN                      | mm    |
|--------------------|-----|----------------------------|-------|
| Tooth Radius $r_3$ | 5.0 | Pitch                      | 5.000 |
| Chamfer c          | 0.6 | Width Between Inner Plates | 2.500 |
| Tooth Width B1     | 2.3 | Roller Diameter            | 3.200 |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 8     | 15.2         | 13.06        | 4                     |
| 9     | 16.8         | 14.62        | 4                     |
| 10    | 18.3         | 16.18        | 4                     |
| 11    | 19.9         | 17.75        | 5                     |
| 12    | 21.5         | 19.32        | 5                     |
| 13    | 23.0         | 20.89        | 5                     |
| 14    | 24.6         | 22.47        | 5                     |
| 15    | 26.2         | 24.04        | 5                     |
| 16    | 27.8         | 25.63        | 6                     |
| 17    | 29.4         | 27.20        | 6                     |
| 18    | 30.9         | 28.79        | 6                     |
| 19    | 32.5         | 30.38        | 6                     |
| 20    | 34.1         | 31.96        | 6                     |
| 21    | 35.7         | 33.54        | 8                     |
| 22    | 37.3         | 35.13        | 8                     |
| 23    | 38.9         | 36.72        | 8                     |
| 24    | 40.5         | 38.30        | 8                     |
| 25    | 42.0         | 39.89        | 8                     |
| 26    | 43.6         | 41.48        | 8                     |
| 27    | 45.2         | 43.07        | 8                     |
| 28    | 46.8         | 44.65        | 8                     |
| 29    | 48.4         | 46.25        | 8                     |
| 30    | 50.0         | 47.83        | 8                     |
| 31    | 51.5         | 49.42        | 8                     |
| 32    | 53.2         | 51.01        | 8                     |
| 33    | 54.8         | 52.60        | 8                     |
| 34    | 56.3         | 54.19        | 8                     |
| 35    | 57.9         | 55.78        | 8                     |
| 36    | 59.5         | 57.37        | 8                     |
| 37    | 61.1         | 58.96        | 8                     |
| 38    | 62.7         | 60.54        | 8                     |
| 39    | 64.3         | 62.13        | 8                     |
| 40    | 65.9         | 63.73        | 8                     |
| 41    | 67.5         | 65.31        | 8                     |
| 42    | 69.1         | 66.91        | 8                     |
| 43    | 70.6         | 68.49        | 8                     |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 44    | 72.2         | 70.09        | 8                     |
| 45    | 73.8         | 71.68        | 8                     |
| 46    | 75.4         | 73.27        | 8                     |
| 47    | 77.0         | 74.86        | 8                     |
| 48    | 78.6         | 76.45        | 8                     |
| 49    | 80.2         | 78.03        | 8                     |
| 50    | 81.8         | 79.63        | 8                     |
| 51    | 83.4         | 81.22        | 10                    |
| 52    | 85.0         | 82.81        | 10                    |
| 53    | 86.6         | 84.40        | 10                    |
| 54    | 88.1         | 85.97        | 10                    |
| 55    | 89.7         | 87.58        | 10                    |
| 56    | 91.3         | 89.17        | 10                    |
| 57    | 92.9         | 90.76        | 10                    |
| 58    | 94.5         | 92.35        | 10                    |
| 59    | 96.1         | 93.94        | 10                    |
| 60    | 97.7         | 95.53        | 10                    |
| 62    | 100.9        | 98.72        | 12                    |
| 64    | 104.1        | 101.90       | 12                    |
| 65    | 105.6        | 103.49       | 12                    |
| 66    | 107.2        | 105.08       | 12                    |
| 68    | 110.4        | 108.26       | 12                    |
| 70    | 113.6        | 111.44       | 12                    |
| 72    | 116.8        | 114.63       | 12                    |
| 75    | 121.6        | 119.40       | 12                    |
| 76    | 123.1        | 120.99       | 12                    |
| 78    | 126.3        | 124.17       | 12                    |
| 80    | 129.5        | 127.35       | 12                    |
| 85    | 137.5        | 135.31       | 14                    |
| 90    | 145.4        | 143.27       | 14                    |
| 95    | 153.4        | 151.22       | 14                    |
| 100   | 161.3        | 159.18       | 14                    |
| 110   | 177.2        | 175.09       | 14                    |
| 114   | 183.6        | 181.49       | 14                    |
| 120   | 193.2        | 191.01       | 14                    |
| 125   | 201.1        | 198.96       | 14                    |



# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

| 04B                |           | 6 x 2.8 mm                 |           |
|--------------------|-----------|----------------------------|-----------|
| <b>SPROCKET</b>    | <b>mm</b> | <b>CHAIN</b>               | <b>mm</b> |
| Tooth Radius $r_3$ | 6.0       | Pitch                      | 6.000     |
| Chamfer $c$        | 0.7       | Width Between Inner Plates | 2.800     |
| Tooth Width $B_1$  | 2.6       | Roller Diameter            | 4.000     |

Material C45

| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex Stock Bore $D_1$ |
|-------|-----------------|-----------------|--------------------------|
| 8     | 18.0            | 15.67           | 5                        |
| 9     | 19.9            | 17.54           | 5                        |
| 10    | 21.7            | 19.42           | 6                        |
| 11    | 23.7            | 21.30           | 6                        |
| 12    | 25.4            | 23.18           | 6                        |
| 13    | 27.3            | 25.05           | 8                        |
| 14    | 29.2            | 26.96           | 8                        |
| 15    | 31.1            | 28.86           | 8                        |
| 16    | 33.0            | 30.76           | 8                        |
| 17    | 35.0            | 32.65           | 8                        |
| 18    | 36.9            | 34.55           | 8                        |
| 19    | 38.8            | 36.44           | 8                        |
| 20    | 40.7            | 38.34           | 8                        |
| 21    | 42.6            | 40.25           | 8                        |
| 22    | 44.5            | 42.16           | 8                        |
| 23    | 46.4            | 44.06           | 8                        |
| 24    | 48.3            | 45.96           | 8                        |
| 25    | 50.2            | 47.87           | 8                        |
| 26    | 52.1            | 49.77           | 10                       |
| 27    | 54.0            | 51.67           | 10                       |
| 28    | 55.9            | 53.58           | 10                       |
| 29    | 57.8            | 55.50           | 10                       |
| 30    | 59.8            | 57.42           | 10                       |
| 31    | 61.7            | 59.31           | 10                       |
| 32    | 63.6            | 61.21           | 10                       |
| 33    | 65.5            | 63.11           | 10                       |
| 34    | 67.4            | 65.02           | 10                       |
| 35    | 69.3            | 66.93           | 10                       |
| 36    | 71.2            | 68.84           | 10                       |
| 37    | 73.1            | 70.75           | 10                       |
| 38    | 75.0            | 72.66           | 10                       |
| 39    | 76.9            | 74.56           | 10                       |
| 40    | 78.9            | 76.47           | 10                       |
| 41    | 80.8            | 78.38           | 12                       |
| 42    | 82.7            | 80.28           | 12                       |
| 43    | 84.7            | 82.19           | 12                       |

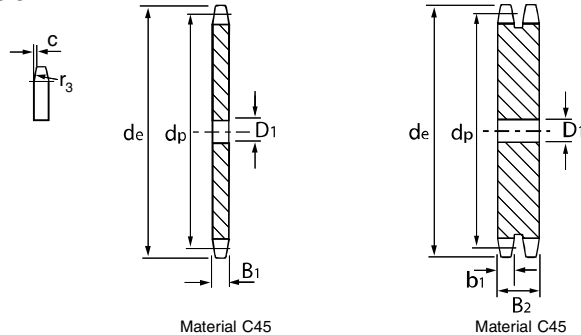
| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex Stock Bore $D_1$ |
|-------|-----------------|-----------------|--------------------------|
| 44    | 86.6            | 84.10           | 12                       |
| 45    | 88.5            | 86.01           | 12                       |
| 46    | 90.4            | 87.92           | 12                       |
| 47    | 92.3            | 89.83           | 12                       |
| 48    | 94.2            | 91.74           | 12                       |
| 49    | 96.1            | 93.64           | 12                       |
| 50    | 98.0            | 95.55           | 12                       |
| 51    | 99.9            | 97.47           | 12                       |
| 52    | 101.8           | 99.37           | 12                       |
| 53    | 103.7           | 101.27          | 12                       |
| 54    | 105.6           | 103.17          | 12                       |
| 55    | 107.6           | 105.08          | 12                       |
| 56    | 109.5           | 107.00          | 12                       |
| 57    | 111.4           | 108.93          | 12                       |
| 58    | 113.3           | 110.82          | 12                       |
| 59    | 115.2           | 112.71          | 12                       |
| 60    | 117.1           | 114.62          | 12                       |
| 62    | 120.9           | 118.45          | 16                       |
| 64    | 124.7           | 122.27          | 16                       |
| 65    | 126.6           | 124.18          | 16                       |
| 66    | 128.5           | 126.09          | 16                       |
| 68    | 132.4           | 129.91          | 16                       |
| 70    | 136.2           | 133.73          | 16                       |
| 72    | 140.0           | 137.55          | 16                       |
| 75    | 145.7           | 143.28          | 16                       |
| 76    | 147.6           | 145.19          | 16                       |
| 78    | 151.5           | 149.01          | 16                       |
| 80    | 155.3           | 152.82          | 16                       |
| 85    | 164.8           | 162.37          | 16                       |
| 90    | 174.4           | 171.92          | 16                       |
| 95    | 183.9           | 181.47          | 16                       |
| 100   | 193.5           | 191.01          | 16                       |
| 110   | 211.6           | 210.11          | 16                       |
| 114   | 220.2           | 217.75          | 16                       |
| 120   | 231.7           | 229.20          | 16                       |
| 125   | 241.2           | 238.75          | 16                       |

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

**05B 8 x 3 mm**

| SPROCKET           | mm  | CHAIN                      | mm    |
|--------------------|-----|----------------------------|-------|
| Tooth Radius $r_3$ | 8.0 | Pitch                      | 8.000 |
| Chamfer c          | 1.0 | Width Between Inner Plates | 3.000 |
| Tooth Width b1     | 2.7 | Roller Diameter            | 5.000 |
| Tooth Width B1     | 2.8 |                            |       |
| Tooth width B2     | 8.3 |                            |       |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        |
|-------|--------------|--------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 |
| 8     | 24.0         | 20.90        | 6             | 8             |
| 9     | 26.6         | 23.39        | 6             | 8             |
| 10    | 29.2         | 25.89        | 8             | 8             |
| 11    | 31.7         | 28.39        | 8             | 8             |
| 12    | 34.2         | 30.91        | 8             | 8             |
| 13    | 36.7         | 33.42        | 8             | 8             |
| 14    | 39.2         | 35.95        | 8             | 8             |
| 15    | 41.7         | 38.48        | 8             | 8             |
| 16    | 44.3         | 41.01        | 8             | 10            |
| 17    | 46.8         | 43.53        | 8             | 10            |
| 18    | 49.3         | 46.07        | 8             | 10            |
| 19    | 51.9         | 48.61        | 8             | 10            |
| 20    | 54.4         | 51.14        | 8             | 10            |
| 21    | 57.0         | 53.67        | 8             | 10            |
| 22    | 59.5         | 56.21        | 8             | 10            |
| 23    | 62.0         | 58.75        | 8             | 10            |
| 24    | 64.6         | 61.29        | 8             | 10            |
| 25    | 67.5         | 63.83        | 8             | 10            |
| 26    | 69.5         | 66.37        | 10            | 12            |
| 27    | 72.2         | 68.91        | 10            | 12            |
| 28    | 74.8         | 71.45        | 10            | 12            |
| 29    | 77.3         | 73.99        | 10            | 12            |
| 30    | 79.8         | 76.53        | 10            | 12            |
| 31    | 82.4         | 79.08        | 10            | 12            |
| 32    | 84.9         | 81.61        | 10            | 12            |
| 33    | 87.5         | 84.16        | 10            | 12            |
| 34    | 90.0         | 86.70        | 10            | 12            |
| 35    | 92.5         | 89.24        | 10            | 12            |
| 36    | 95.0         | 91.79        | 10            | 12            |
| 37    | 97.6         | 94.33        | 10            | 12            |
| 38    | 100.2        | 96.88        | 10            | 12            |
| 39    | 102.7        | 99.42        | 10            | 12            |
| 40    | 105.3        | 101.97       | 10            | 12            |
| 41    | 107.8        | 104.51       | 12            | 14            |
| 42    | 110.4        | 107.05       | 12            | 14            |
| 43    | 112.9        | 109.60       | 12            | 14            |

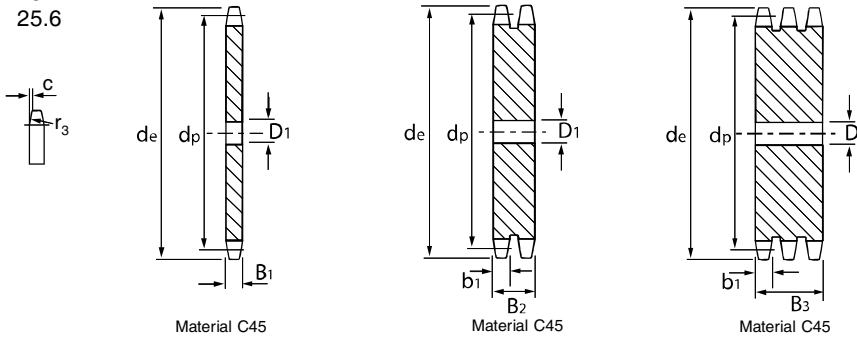
| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        |
|-------|--------------|--------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 |
| 44    | 115.5        | 112.14       | 12            | 14            |
| 45    | 118.0        | 114.69       | 12            | 14            |
| 46    | 120.6        | 117.23       | 12            | 14            |
| 47    | 123.1        | 119.77       | 12            | 14            |
| 48    | 125.6        | 122.32       | 12            | 14            |
| 49    | 128.2        | 124.89       | 12            | 14            |
| 50    | 130.7        | 127.41       | 12            | 14            |
| 51    | 133.3        | 129.95       | 14            | 16            |
| 52    | 135.8        | 132.49       | 14            | 16            |
| 53    | 138.4        | 135.04       | 14            | 16            |
| 54    | 140.9        | 137.59       | 14            | 16            |
| 55    | 143.5        | 140.13       | 14            | 16            |
| 56    | 146.0        | 142.68       | 14            | 16            |
| 57    | 148.6        | 145.22       | 14            | 16            |
| 58    | 151.0        | 147.77       | 14            | 16            |
| 59    | 153.6        | 150.31       | 14            | 16            |
| 60    | 156.2        | 152.85       | 14            | 16            |
| 62    | 162.0        | 157.95       | 16            | 20            |
| 64    | 167.1        | 163.04       | 16            | 20            |
| 65    | 169.2        | 165.58       | 16            | 20            |
| 66    | 172.2        | 168.13       | 16            | 20            |
| 68    | 177.3        | 173.22       | 16            | 20            |
| 70    | 182.4        | 178.31       | 16            | 20            |
| 72    | 187.5        | 183.41       | 20            | 20            |
| 75    | 195.1        | 191.04       | 20            | 20            |
| 76    | 197.7        | 193.59       | 20            | 20            |
| 78    | 202.8        | 198.68       | 20            | 20            |
| 80    | 207.9        | 203.77       | 20            | 20            |
| 85    | 220.6        | 216.50       | 20            | 20            |
| 90    | 233.4        | 229.23       | 20            | 20            |
| 95    | 246.1        | 241.96       | 20            | 20            |
| 100   | 258.9        | 254.68       | 20            | 20            |
| 110   | 284.3        | 280.15       | 20            | 20            |
| 114   | 294.5        | 290.33       | 20            | 20            |
| 120   | 310.0        | 305.61       | 20            | 20            |
| 125   | 322.5        | 318.34       | 20            | 20            |

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

06B 3/8" x 7/32

| SPROCKET           |      | CHAIN                      |       |
|--------------------|------|----------------------------|-------|
|                    | mm   |                            | mm    |
| Tooth Radius $r_3$ | 10.0 | Pitch                      | 9.525 |
| Chamfer c          | 1.0  | Width Between Inner Plates | 5.720 |
| Tooth Width $b_1$  | 5.2  | Roller Diameter            | 6.350 |
| Tooth Width $B_1$  | 5.3  |                            |       |
| Tooth Width $B_2$  | 15.4 |                            |       |
| Tooth Width $B_3$  | 25.6 |                            |       |



| Teeth | Outer Dia<br>de | Pitch Dia<br>dp | Simplex       | Duplex        | Triplex       |
|-------|-----------------|-----------------|---------------|---------------|---------------|
|       |                 |                 | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 28.0            | 24.89           | 6             | 8             | 8             |
| 9     | 31.0            | 27.85           | 7             | 8             | 8             |
| 10    | 34.0            | 30.82           | 7             | 8             | 10            |
| 11    | 37.0            | 33.80           | 8             | 10            | 12            |
| 12    | 40.0            | 36.80           | 8             | 10            | 12            |
| 13    | 43.0            | 39.80           | 8             | 10            | 12            |
| 14    | 46.3            | 42.80           | 8             | 10            | 12            |
| 15    | 49.3            | 45.81           | 8             | 10            | 12            |
| 16    | 52.3            | 48.82           | 10            | 12            | 12            |
| 17    | 55.3            | 51.83           | 10            | 12            | 12            |
| 18    | 58.3            | 54.85           | 10            | 12            | 12            |
| 19    | 61.3            | 57.87           | 10            | 12            | 12            |
| 20    | 64.3            | 60.89           | 10            | 12            | 12            |
| 21    | 68.0            | 63.91           | 12            | 12            | 16            |
| 22    | 71.0            | 66.93           | 12            | 12            | 16            |
| 23    | 73.5            | 69.95           | 12            | 12            | 16            |
| 24    | 77.0            | 72.97           | 12            | 12            | 16            |
| 25    | 80.0            | 76.00           | 12            | 12            | 16            |
| 26    | 83.0            | 79.02           | 12            | 16            | 16            |
| 27    | 86.0            | 82.04           | 12            | 16            | 16            |
| 28    | 89.0            | 85.07           | 12            | 16            | 16            |
| 29    | 92.0            | 88.09           | 12            | 16            | 16            |
| 30    | 94.7            | 91.12           | 12            | 16            | 16            |
| 31    | 98.3            | 94.15           | 16            | 16            | 16            |
| 32    | 101.3           | 97.17           | 16            | 16            | 16            |
| 33    | 104.3           | 100.20          | 16            | 16            | 16            |
| 34    | 107.3           | 103.23          | 16            | 16            | 16            |
| 35    | 110.4           | 106.26          | 16            | 16            | 16            |
| 36    | 113.4           | 109.29          | 16            | 16            | 20            |
| 37    | 116.4           | 112.32          | 16            | 16            | 20            |
| 38    | 119.5           | 115.35          | 16            | 16            | 20            |
| 39    | 122.5           | 118.37          | 16            | 16            | 20            |
| 40    | 125.5           | 121.40          | 16            | 16            | 20            |
| 41    | 128.5           | 124.43          | 16            | 20            | 20            |
| 42    | 131.6           | 127.46          | 16            | 20            | 20            |
| 43    | 134.6           | 130.49          | 16            | 20            | 20            |

| Teeth | Outer Dia<br>de | Pitch Dia<br>dp | Simplex       | Duplex        | Triplex       |
|-------|-----------------|-----------------|---------------|---------------|---------------|
|       |                 |                 | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44    | 137.6           | 133.52          | 16            | 20            | 20            |
| 45    | 140.7           | 136.54          | 16            | 20            | 20            |
| 46    | 143.7           | 139.58          | 20            | 20            | 20            |
| 47    | 146.7           | 142.61          | 20            | 20            | 20            |
| 48    | 149.7           | 145.64          | 20            | 20            | 20            |
| 49    | 152.7           | 148.66          | 20            | 20            | 20            |
| 50    | 155.7           | 151.69          | 20            | 20            | 20            |
| 51    | 158.7           | 154.72          | 20            | 20            | 20            |
| 52    | 161.8           | 157.75          | 20            | 20            | 20            |
| 53    | 164.8           | 160.78          | 20            | 20            | 20            |
| 54    | 167.8           | 163.82          | 20            | 20            | 20            |
| 55    | 170.8           | 166.85          | 20            | 20            | 20            |
| 56    | 173.8           | 169.88          | 20            | 20            | 25            |
| 57    | 176.9           | 172.91          | 20            | 20            | 25            |
| 58    | 179.9           | 175.93          | 20            | 20            | 25            |
| 59    | 183.0           | 178.96          | 20            | 20            | 25            |
| 60    | 186.0           | 181.99          | 20            | 20            | 25            |
| 62    | 192.1           | 188.06          | 20            | 25            | 25            |
| 64    | 198.2           | 194.12          | 20            | 25            | 25            |
| 65    | 201.6           | 197.15          | 20            | 25            | 25            |
| 66    | 204.6           | 200.18          | 20            | 25            | 25            |
| 68    | 210.7           | 206.24          | 20            | 25            | 25            |
| 70    | 216.7           | 212.30          | 20            | 25            | 25            |
| 72    | 222.8           | 218.37          | 20            | 25            | 25            |
| 75    | 231.9           | 227.46          | 20            | 25            | 25            |
| 76    | 234.9           | 230.49          | 20            | 25            | 25            |
| 78    | 241.0           | 236.55          | 20            | 25            | 25            |
| 80    | 247.1           | 242.61          | 20            | 25            | 25            |
| 85    | 262.2           | 257.77          | 25            | 25            | 25            |
| 90    | 277.4           | 272.93          | 25            | 25            | 25            |
| 95    | 292.5           | 288.08          | 25            | 25            | 25            |
| 100   | 307.7           | 303.25          | 25            | 25            | 25            |
| 110   | 338.0           | 333.55          | 25            | 25            | 25            |
| 114   | 349.5           | 345.68          | 25            | 25            | 25            |
| 120   | 368.3           | 363.86          | 25            | 25            | 25            |
| 125   | 383.5           | 379.02          | 25            | 25            | 25            |

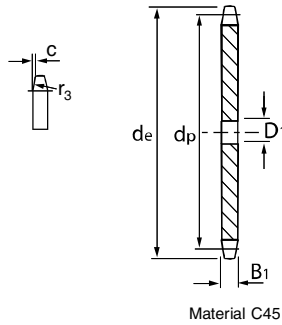
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

**081 1/2" x 1/8"**

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 13.0 | Pitch                      | 12.700 |
| Chamfer $c$        | 1.3  | Width Between Inner Plates | 3.300  |
| Tooth Width $B_1$  | 3.0  | Roller Diameter            | 7.750  |



| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex Stock Bore $D_1$ |
|-------|-----------------|-----------------|--------------------------|
| 8     | 37.2            | 33.18           | 8                        |
| 9     | 41.5            | 37.13           | 8                        |
| 10    | 46.2            | 41.10           | 8                        |
| 11    | 49.6            | 45.07           | 8                        |
| 12    | 53.9            | 49.07           | 8                        |
| 13    | 58.4            | 53.06           | 8                        |
| 14    | 62.8            | 57.07           | 8                        |
| 15    | 66.8            | 61.09           | 8                        |
| 16    | 70.9            | 65.10           | 10                       |
| 17    | 74.9            | 69.11           | 10                       |
| 18    | 78.9            | 73.14           | 10                       |
| 19    | 82.9            | 77.16           | 10                       |
| 20    | 86.9            | 81.19           | 10                       |
| 21    | 91.0            | 85.22           | 10                       |
| 22    | 95.0            | 89.24           | 10                       |
| 23    | 99.0            | 93.27           | 10                       |
| 24    | 103.0           | 97.29           | 10                       |
| 25    | 107.1           | 101.33          | 10                       |
| 26    | 111.2           | 105.36          | 12                       |
| 27    | 115.4           | 109.40          | 12                       |
| 28    | 119.4           | 113.42          | 12                       |
| 29    | 123.4           | 117.46          | 12                       |
| 30    | 127.5           | 121.50          | 12                       |
| 31    | 131.5           | 125.54          | 12                       |
| 32    | 135.5           | 129.56          | 12                       |
| 33    | 139.6           | 133.60          | 12                       |
| 34    | 143.6           | 137.64          | 12                       |
| 35    | 147.6           | 141.68          | 12                       |
| 36    | 151.7           | 145.72          | 16                       |
| 37    | 155.7           | 149.76          | 16                       |
| 38    | 159.8           | 153.80          | 16                       |
| 39    | 163.8           | 157.83          | 16                       |
| 40    | 167.8           | 161.87          | 16                       |
| 41    | 171.4           | 165.91          | 16                       |
| 42    | 175.4           | 169.95          | 16                       |

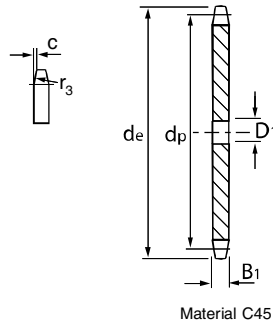
| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex Stock Bore $D_1$ |
|-------|-----------------|-----------------|--------------------------|
| 43    | 179.5           | 173.99          | 16                       |
| 44    | 183.5           | 178.03          | 16                       |
| 45    | 187.5           | 182.07          | 16                       |
| 46    | 191.6           | 186.10          | 20                       |
| 47    | 195.6           | 190.14          | 20                       |
| 48    | 199.7           | 194.18          | 20                       |
| 49    | 203.7           | 198.22          | 20                       |
| 50    | 207.8           | 202.26          | 20                       |
| 51    | 211.8           | 206.30          | 20                       |
| 52    | 215.9           | 210.34          | 20                       |
| 53    | 219.9           | 214.37          | 20                       |
| 54    | 224.0           | 218.43          | 20                       |
| 55    | 228.0           | 222.46          | 20                       |
| 56    | 232.1           | 226.50          | 20                       |
| 57    | 236.1           | 230.54          | 20                       |
| 58    | 240.2           | 234.58          | 20                       |
| 59    | 244.2           | 238.62          | 20                       |
| 60    | 248.2           | 242.66          | 20                       |
| 62    | 256.7           | 250.75          | 20                       |
| 64    | 264.8           | 258.82          | 20                       |
| 65    | 268.8           | 262.86          | 20                       |
| 66    | 272.9           | 266.90          | 25                       |
| 68    | 280.9           | 274.99          | 25                       |
| 70    | 289.0           | 283.07          | 25                       |
| 72    | 297.1           | 291.16          | 25                       |
| 76    | 313.3           | 307.33          | 25                       |
| 78    | 321.4           | 315.40          | 25                       |
| 80    | 329.4           | 323.48          | 25                       |
| 85    | 349.7           | 343.70          | 25                       |
| 90    | 369.9           | 363.90          | 25                       |
| 100   | 410.3           | 404.31          | 25                       |
| 110   | 450.7           | 444.74          | 25                       |
| 114   | 466.9           | 460.90          | 25                       |
| 120   | 491.2           | 485.16          | 25                       |
| 125   | 511.4           | 505.37          | 25                       |

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

083 / 084 1/2" x 3/16"

| SPROCKET           | mm   | CHAIN                      | mm     |
|--------------------|------|----------------------------|--------|
| Tooth Radius $r_3$ | 13.0 | Pitch                      | 12.700 |
| Chamfer $c$        | 1.3  | Width Between Inner Plates | 4.880  |
| Tooth Width $B_I$  | 4.5  | Roller Diameter            | 7.750  |



| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex Stock Bore $D_1$ |
|-------|-----------------|-----------------|--------------------------|
| 8     | 38.5            | 33.18           | 8                        |
| 9     | 41.5            | 37.18           | 8                        |
| 10    | 46.2            | 41.10           | 8                        |
| 11    | 49.6            | 45.07           | 8                        |
| 12    | 53.9            | 49.07           | 8                        |
| 13    | 58.4            | 53.06           | 8                        |
| 14    | 62.8            | 57.07           | 8                        |
| 15    | 66.8            | 61.09           | 8                        |
| 16    | 70.9            | 65.10           | 10                       |
| 17    | 74.9            | 69.11           | 10                       |
| 18    | 78.9            | 73.14           | 10                       |
| 19    | 82.9            | 77.16           | 10                       |
| 20    | 86.9            | 81.19           | 10                       |
| 21    | 91.0            | 85.22           | 10                       |
| 22    | 95.0            | 89.24           | 10                       |
| 23    | 99.0            | 93.27           | 10                       |
| 24    | 103.0           | 97.29           | 10                       |
| 25    | 107.1           | 101.33          | 10                       |
| 26    | 111.2           | 105.36          | 12                       |
| 27    | 115.4           | 109.40          | 12                       |
| 28    | 119.4           | 113.42          | 12                       |
| 29    | 123.4           | 117.46          | 12                       |
| 30    | 127.5           | 121.50          | 12                       |
| 31    | 131.5           | 125.54          | 12                       |
| 32    | 135.5           | 129.56          | 12                       |
| 33    | 139.6           | 133.60          | 12                       |
| 34    | 143.6           | 137.64          | 12                       |
| 35    | 147.6           | 141.68          | 12                       |
| 36    | 151.7           | 145.72          | 16                       |
| 37    | 155.7           | 149.76          | 16                       |
| 38    | 159.8           | 153.80          | 16                       |
| 39    | 163.8           | 157.83          | 16                       |
| 40    | 167.8           | 161.87          | 16                       |
| 41    | 171.4           | 165.91          | 16                       |
| 42    | 175.4           | 169.95          | 16                       |

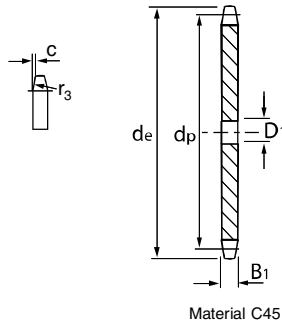
| Teeth | Outer Dia $d_e$ | Pitch Dia $d_p$ | Simplex Stock Bore $D_1$ |
|-------|-----------------|-----------------|--------------------------|
| 43    | 179.5           | 173.99          | 16                       |
| 44    | 183.5           | 178.03          | 16                       |
| 45    | 187.5           | 182.07          | 16                       |
| 46    | 191.6           | 186.10          | 20                       |
| 47    | 195.6           | 190.14          | 20                       |
| 48    | 199.7           | 194.18          | 20                       |
| 49    | 203.7           | 198.22          | 20                       |
| 50    | 207.8           | 202.26          | 20                       |
| 51    | 211.8           | 206.30          | 20                       |
| 52    | 215.9           | 210.34          | 20                       |
| 53    | 219.9           | 214.37          | 20                       |
| 54    | 224.0           | 218.43          | 20                       |
| 55    | 228.0           | 222.46          | 20                       |
| 56    | 232.1           | 226.50          | 20                       |
| 57    | 236.1           | 230.54          | 20                       |
| 58    | 240.2           | 234.58          | 20                       |
| 59    | 244.2           | 238.62          | 20                       |
| 60    | 248.2           | 242.66          | 20                       |
| 62    | 256.7           | 250.75          | 20                       |
| 64    | 264.8           | 258.82          | 20                       |
| 65    | 268.8           | 262.86          | 20                       |
| 66    | 272.9           | 266.90          | 25                       |
| 68    | 280.9           | 274.99          | 25                       |
| 70    | 289.0           | 283.07          | 25                       |
| 72    | 297.1           | 291.16          | 25                       |
| 76    | 313.3           | 307.33          | 25                       |
| 78    | 321.4           | 315.40          | 25                       |
| 80    | 329.4           | 323.48          | 25                       |
| 85    | 349.7           | 343.70          | 25                       |
| 90    | 369.9           | 363.90          | 25                       |
| 100   | 410.3           | 404.31          | 25                       |
| 110   | 450.7           | 444.74          | 25                       |
| 114   | 466.9           | 460.90          | 25                       |
| 120   | 491.2           | 485.16          | 25                       |
| 125   | 511.4           | 505.37          | 25                       |

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

**085 1/2" x 1/4"**

| SPROCKET        |      | CHAIN                      |        |
|-----------------|------|----------------------------|--------|
|                 | mm   |                            | mm     |
| Tooth Radius r3 | 13.0 | Pitch                      | 12.700 |
| Chamfer c       | 1.3  | Width Between Inner Plates | 6.400  |
| Tooth Width B1  | 5.9  | Roller Diameter            | 7.750  |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 8     | 38.5         | 33.18        | 8                     |
| 9     | 41.5         | 37.18        | 8                     |
| 10    | 46.2         | 41.10        | 8                     |
| 11    | 49.6         | 45.07        | 8                     |
| 12    | 53.9         | 49.07        | 8                     |
| 13    | 58.4         | 53.06        | 8                     |
| 14    | 62.8         | 57.07        | 8                     |
| 15    | 66.8         | 61.09        | 8                     |
| 16    | 70.9         | 65.10        | 10                    |
| 17    | 74.9         | 69.11        | 10                    |
| 18    | 78.9         | 73.14        | 10                    |
| 19    | 82.9         | 77.16        | 10                    |
| 20    | 86.9         | 81.19        | 10                    |
| 21    | 91.0         | 85.22        | 10                    |
| 22    | 95.0         | 89.24        | 10                    |
| 23    | 99.0         | 93.27        | 10                    |
| 24    | 103.0        | 97.29        | 10                    |
| 25    | 107.1        | 101.33       | 10                    |
| 26    | 111.2        | 105.36       | 12                    |
| 27    | 115.4        | 109.40       | 12                    |
| 28    | 119.4        | 113.42       | 12                    |
| 29    | 123.4        | 117.46       | 12                    |
| 30    | 127.5        | 121.50       | 12                    |
| 31    | 131.5        | 125.54       | 12                    |
| 32    | 135.5        | 129.56       | 12                    |
| 33    | 139.6        | 133.60       | 12                    |
| 34    | 143.6        | 137.64       | 12                    |
| 35    | 147.6        | 141.68       | 12                    |
| 36    | 151.7        | 145.72       | 16                    |
| 37    | 155.7        | 149.76       | 16                    |
| 38    | 159.8        | 153.80       | 16                    |
| 39    | 163.8        | 157.83       | 16                    |
| 40    | 167.8        | 161.87       | 16                    |
| 41    | 171.4        | 165.91       | 16                    |
| 42    | 175.4        | 169.95       | 16                    |

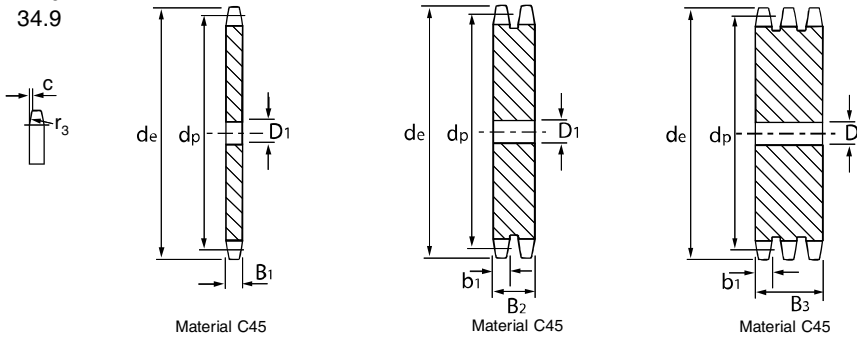
| Teeth | Outer Dia de | Pitch Dia dp | Simplex Stock Bore D1 |
|-------|--------------|--------------|-----------------------|
| 43    | 179.5        | 173.99       | 16                    |
| 44    | 183.5        | 178.03       | 16                    |
| 45    | 187.5        | 182.07       | 16                    |
| 46    | 191.6        | 186.10       | 20                    |
| 47    | 195.6        | 190.14       | 20                    |
| 48    | 199.7        | 194.18       | 20                    |
| 49    | 203.7        | 198.22       | 20                    |
| 50    | 207.8        | 202.26       | 20                    |
| 51    | 211.8        | 206.30       | 20                    |
| 52    | 215.9        | 210.34       | 20                    |
| 53    | 219.9        | 214.37       | 20                    |
| 54    | 224.0        | 218.43       | 20                    |
| 55    | 228.0        | 222.46       | 20                    |
| 56    | 232.1        | 226.50       | 20                    |
| 57    | 236.1        | 230.54       | 20                    |
| 58    | 240.2        | 234.58       | 20                    |
| 59    | 244.2        | 238.62       | 20                    |
| 60    | 248.2        | 242.66       | 20                    |
| 62    | 256.7        | 250.75       | 20                    |
| 64    | 264.8        | 258.82       | 20                    |
| 65    | 268.8        | 262.86       | 20                    |
| 66    | 272.9        | 266.90       | 25                    |
| 68    | 280.9        | 274.99       | 25                    |
| 70    | 289.0        | 283.07       | 25                    |
| 72    | 297.1        | 291.16       | 25                    |
| 76    | 313.3        | 307.33       | 25                    |
| 78    | 321.4        | 315.40       | 25                    |
| 80    | 329.4        | 323.48       | 25                    |
| 85    | 349.7        | 343.70       | 25                    |
| 90    | 369.9        | 363.90       | 25                    |
| 100   | 410.3        | 404.31       | 25                    |
| 110   | 450.7        | 444.74       | 25                    |
| 114   | 466.9        | 460.90       | 25                    |
| 120   | 491.6        | 485.16       | 25                    |
| 125   | 511.4        | 505.37       | 25                    |

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

08B 1/2" x 5/16"

| SPROCKET        |      | CHAIN                      |        |
|-----------------|------|----------------------------|--------|
|                 | mm   |                            | mm     |
| Tooth Radius r3 | 13.0 | Pitch                      | 12.700 |
| Chamfer c       | 1.3  | Width Between Inner Plates | 7.750  |
| Tooth Width b1  | 7.0  | Roller Diameter            | 8.510  |
| Tooth Width B1  | 7.2  |                            |        |
| Tooth Width B2  | 21.0 |                            |        |
| Tooth Width B3  | 34.9 |                            |        |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 37.2         | 33.18        | 8             | 10            | 10            |
| 9     | 41.0         | 37.13        | 8             | 10            | 10            |
| 10    | 45.2         | 41.10        | 8             | 10            | 10            |
| 11    | 48.7         | 45.07        | 10            | 10            | 12            |
| 12    | 53.0         | 49.07        | 10            | 10            | 12            |
| 13    | 57.4         | 53.06        | 10            | 10            | 12            |
| 14    | 61.8         | 57.07        | 10            | 10            | 12            |
| 15    | 65.5         | 61.09        | 10            | 10            | 12            |
| 16    | 69.5         | 65.10        | 10            | 12            | 16            |
| 17    | 73.6         | 69.11        | 10            | 12            | 16            |
| 18    | 77.8         | 73.14        | 10            | 12            | 16            |
| 19    | 81.7         | 77.16        | 10            | 12            | 16            |
| 20    | 85.8         | 81.19        | 10            | 12            | 16            |
| 21    | 89.7         | 85.22        | 12            | 16            | 16            |
| 22    | 93.8         | 89.24        | 12            | 16            | 16            |
| 23    | 98.2         | 93.27        | 12            | 16            | 16            |
| 24    | 101.8        | 97.29        | 12            | 16            | 16            |
| 25    | 105.8        | 101.33       | 12            | 16            | 16            |
| 26    | 110.0        | 105.36       | 16            | 16            | 16            |
| 27    | 114.0        | 109.40       | 16            | 16            | 16            |
| 28    | 118.0        | 113.42       | 16            | 16            | 16            |
| 29    | 122.0        | 117.46       | 16            | 16            | 16            |
| 30    | 126.1        | 121.50       | 16            | 16            | 16            |
| 31    | 130.2        | 125.54       | 16            | 16            | 20            |
| 32    | 134.3        | 129.56       | 16            | 16            | 20            |
| 33    | 138.4        | 133.60       | 16            | 16            | 20            |
| 34    | 142.6        | 137.64       | 16            | 16            | 20            |
| 35    | 146.7        | 141.68       | 16            | 16            | 20            |
| 36    | 151.0        | 145.72       | 16            | 20            | 20            |
| 37    | 154.6        | 149.76       | 16            | 20            | 20            |
| 38    | 158.6        | 153.80       | 16            | 20            | 20            |
| 39    | 162.7        | 157.83       | 16            | 20            | 20            |
| 40    | 166.8        | 161.87       | 16            | 20            | 20            |
| 41    | 171.4        | 165.91       | 20            | 20            | 25            |
| 42    | 175.4        | 169.95       | 20            | 20            | 25            |
| 43    | 179.7        | 173.99       | 20            | 20            | 25            |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44    | 183.8        | 178.03       | 20            | 20            | 25            |
| 45    | 188.0        | 182.07       | 20            | 20            | 25            |
| 46    | 192.1        | 186.10       | 20            | 20            | 25            |
| 47    | 196.2        | 190.14       | 20            | 20            | 25            |
| 48    | 200.3        | 194.18       | 20            | 20            | 25            |
| 49    | 204.3        | 198.22       | 20            | 20            | 25            |
| 50    | 208.3        | 202.26       | 20            | 20            | 25            |
| 51    | 212.1        | 206.30       | 20            | 25            | 25            |
| 52    | 216.1        | 210.34       | 20            | 25            | 25            |
| 53    | 220.2        | 214.37       | 20            | 25            | 25            |
| 54    | 224.1        | 218.43       | 20            | 25            | 25            |
| 55    | 228.1        | 222.46       | 20            | 25            | 25            |
| 56    | 232.2        | 226.50       | 20            | 25            | 25            |
| 57    | 236.4        | 230.54       | 20            | 25            | 25            |
| 58    | 240.5        | 234.58       | 20            | 25            | 25            |
| 59    | 244.5        | 238.62       | 20            | 25            | 25            |
| 60    | 248.6        | 242.66       | 20            | 25            | 25            |
| 62    | 256.9        | 250.75       | 25            | 25            | 25            |
| 64    | 265.1        | 258.82       | 25            | 25            | 25            |
| 65    | 269.0        | 262.86       | 25            | 25            | 25            |
| 66    | 273.0        | 266.90       | 25            | 25            | 25            |
| 68    | 281.0        | 274.99       | 25            | 25            | 25            |
| 70    | 289.0        | 283.07       | 25            | 25            | 25            |
| 72    | 297.2        | 291.16       | 25            | 25            | 25            |
| 75    | 309.2        | 303.27       | 25            | 25            | 25            |
| 76    | 313.2        | 307.33       | 25            | 25            | 25            |
| 78    | 321.4        | 315.40       | 25            | 25            | 25            |
| 80    | 329.4        | 323.48       | 25            | 25            | 25            |
| 85    | 349.0        | 343.69       | 25            | 25            | 25            |
| 90    | 369.9        | 363.90       | 25            | 25            | 25            |
| 95    | 390.1        | 384.11       | 25            | 25            | 25            |
| 100   | 410.3        | 404.31       | 25            | 25            | 25            |
| 110   | 450.7        | 444.74       | 25            | 25            | 25            |
| 114   | 466.9        | 460.90       | 25            | 25            | 25            |
| 120   | 491.2        | 485.16       | 25            | 25            | 25            |
| 125   | 511.3        | 505.37       | 25            | 25            | 25            |

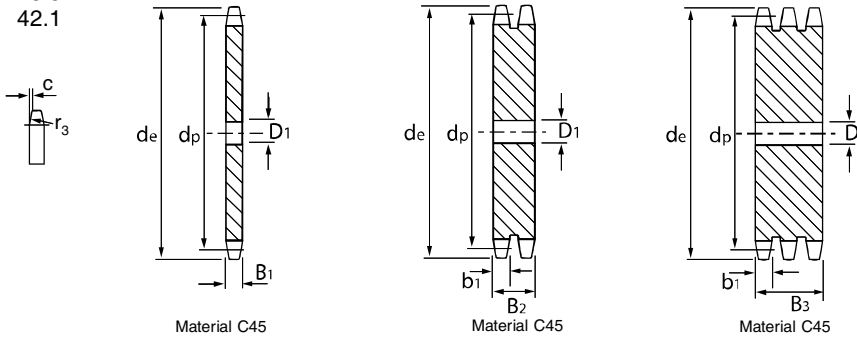
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

10B 5/8" x 3/8"

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 16.0 | Pitch                      | 15.875 |
| Chamfer c          | 1.6  | Width Between Inner Plates | 9.650  |
| Tooth Width $b_1$  | 9.0  | Roller Diameter            | 10.160 |
| Tooth Width $B_1$  | 9.1  |                            |        |
| Tooth Width $B_2$  | 25.5 |                            |        |
| Tooth Width $B_3$  | 42.1 |                            |        |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 47.0         | 41.48        | 10            | 10            | 12            |
| 9     | 52.6         | 46.42        | 10            | 10            | 12            |
| 10    | 57.5         | 51.37        | 10            | 10            | 12            |
| 11    | 63.0         | 56.34        | 10            | 12            | 12            |
| 12    | 68.0         | 61.34        | 10            | 12            | 12            |
| 13    | 73.0         | 66.32        | 10            | 12            | 12            |
| 14    | 78.0         | 71.34        | 10            | 12            | 12            |
| 15    | 83.0         | 76.36        | 10            | 12            | 12            |
| 16    | 88.0         | 81.37        | 12            | 12            | 16            |
| 17    | 93.0         | 86.39        | 12            | 12            | 16            |
| 18    | 98.3         | 91.42        | 12            | 12            | 16            |
| 19    | 103.3        | 96.45        | 12            | 12            | 16            |
| 20    | 108.4        | 101.49       | 12            | 12            | 16            |
| 21    | 113.4        | 106.52       | 12            | 16            | 16            |
| 22    | 118.0        | 111.55       | 12            | 16            | 16            |
| 23    | 123.4        | 116.58       | 12            | 16            | 16            |
| 24    | 128.3        | 121.62       | 12            | 16            | 16            |
| 25    | 134.0        | 126.66       | 12            | 16            | 16            |
| 26    | 139.0        | 131.70       | 16            | 16            | 20            |
| 27    | 144.0        | 136.75       | 16            | 16            | 20            |
| 28    | 148.7        | 141.78       | 16            | 16            | 20            |
| 29    | 153.8        | 146.83       | 16            | 16            | 20            |
| 30    | 158.8        | 151.87       | 16            | 16            | 20            |
| 31    | 163.9        | 156.92       | 16            | 20            | 20            |
| 32    | 168.9        | 161.95       | 16            | 20            | 20            |
| 33    | 174.5        | 167.00       | 16            | 20            | 20            |
| 34    | 179.0        | 172.05       | 16            | 20            | 20            |
| 35    | 184.1        | 177.10       | 16            | 20            | 20            |
| 36    | 189.1        | 182.15       | 20            | 20            | 25            |
| 37    | 194.2        | 187.20       | 20            | 20            | 25            |
| 38    | 199.2        | 192.24       | 20            | 20            | 25            |
| 39    | 204.2        | 197.29       | 20            | 20            | 25            |
| 40    | 209.3        | 202.34       | 20            | 20            | 25            |
| 41    | 214.8        | 207.39       | 20            | 20            | 25            |
| 42    | 219.9        | 212.44       | 20            | 20            | 25            |
| 43    | 224.9        | 217.49       | 20            | 20            | 25            |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44    | 230.0        | 222.53       | 20            | 20            | 25            |
| 45    | 235.0        | 227.58       | 20            | 20            | 25            |
| 46    | 240.1        | 232.63       | 20            | 25            | 25            |
| 47    | 245.1        | 237.68       | 20            | 25            | 25            |
| 48    | 250.2        | 242.73       | 20            | 25            | 25            |
| 49    | 255.2        | 247.78       | 20            | 25            | 25            |
| 50    | 260.3        | 252.82       | 20            | 25            | 25            |
| 51    | 265.3        | 257.87       | 20            | 25            | 25            |
| 52    | 270.4        | 262.92       | 20            | 25            | 25            |
| 53    | 275.4        | 267.97       | 20            | 25            | 25            |
| 54    | 280.5        | 273.03       | 20            | 25            | 25            |
| 55    | 285.5        | 278.08       | 20            | 25            | 25            |
| 56    | 290.6        | 283.13       | 25            | 25            | 25            |
| 57    | 296.0        | 288.18       | 25            | 25            | 25            |
| 58    | 300.7        | 293.23       | 25            | 25            | 25            |
| 59    | 305.7        | 298.27       | 25            | 25            | 25            |
| 60    | 310.8        | 303.32       | 25            | 25            | 25            |
| 62    | 321.4        | 313.43       | 25            | 25            | 30            |
| 64    | 331.5        | 323.83       | 25            | 25            | 30            |
| 65    | 336.5        | 328.58       | 25            | 25            | 30            |
| 66    | 341.6        | 333.63       | 25            | 25            | 30            |
| 68    | 351.7        | 343.74       | 25            | 25            | 30            |
| 70    | 361.8        | 353.84       | 25            | 25            | 30            |
| 72    | 371.9        | 363.95       | 25            | 25            | 30            |
| 75    | 387.1        | 379.09       | 25            | 25            | 30            |
| 76    | 392.1        | 384.16       | 25            | 25            | 30            |
| 78    | 402.2        | 394.25       | 25            | 25            | 30            |
| 80    | 412.3        | 404.35       | 25            | 25            | 30            |
| 85    | 437.6        | 429.62       | 30            | 30            | 30            |
| 90    | 462.8        | 454.88       | 30            | 30            | 30            |
| 95    | 488.5        | 480.14       | 30            | 30            | 30            |
| 100   | 513.4        | 505.40       | 30            | 30            | 30            |
| 110   | 563.9        | 555.92       | 30            | 30            | 30            |
| 114   | 584.1        | 576.13       | 30            | 30            | 30            |
| 120   | 614.8        | 606.44       | 30            | 30            | 30            |
| 125   | 639.7        | 631.71       | 30            | 30            | 30            |

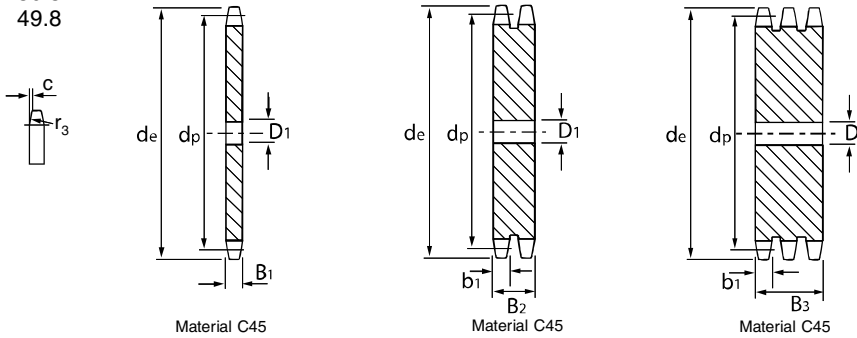


# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

12B 3/4" x 7/16"

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 19.0 | Pitch                      | 19.050 |
| Chamfer c          | 2.0  | Width Between Inner Plates | 11.680 |
| Tooth Width $b_1$  | 10.8 | Roller Diameter            | 12.070 |
| Tooth Width $B_1$  | 11.1 |                            |        |
| Tooth Width $B_2$  | 30.3 |                            |        |
| Tooth Width $B_3$  | 49.8 |                            |        |



| Teeth | Outer Dia<br>$d_e$ | Pitch Dia<br>$d_p$ | Simplex          | Duplex           | Triplex          |
|-------|--------------------|--------------------|------------------|------------------|------------------|
|       |                    |                    | Stock Bore<br>D1 | Stock Bore<br>D1 | Stock Bore<br>D1 |
| 8     | 57.6               | 49.78              | 12               | 12               | 12               |
| 9     | 62.0               | 55.70              | 12               | 12               | 12               |
| 10    | 69.0               | 61.64              | 12               | 12               | 12               |
| 11    | 75.0               | 67.61              | 14               | 14               | 16               |
| 12    | 81.5               | 73.10              | 14               | 14               | 16               |
| 13    | 87.5               | 79.59              | 14               | 14               | 16               |
| 14    | 93.6               | 85.61              | 14               | 14               | 16               |
| 15    | 99.8               | 91.63              | 14               | 14               | 16               |
| 16    | 105.5              | 97.65              | 14               | 16               | 16               |
| 17    | 111.5              | 103.67             | 14               | 16               | 16               |
| 18    | 118.0              | 109.71             | 14               | 16               | 16               |
| 19    | 124.2              | 115.75             | 14               | 16               | 16               |
| 20    | 129.7              | 121.78             | 14               | 16               | 16               |
| 21    | 136.0              | 127.82             | 16               | 16               | 20               |
| 22    | 141.8              | 133.86             | 16               | 16               | 20               |
| 23    | 149.0              | 139.90             | 16               | 16               | 20               |
| 24    | 153.9              | 145.94             | 16               | 16               | 20               |
| 25    | 160.0              | 152.00             | 16               | 16               | 20               |
| 26    | 165.9              | 158.04             | 16               | 20               | 20               |
| 27    | 172.3              | 164.09             | 16               | 20               | 20               |
| 28    | 178.0              | 170.13             | 16               | 20               | 20               |
| 29    | 184.1              | 176.19             | 16               | 20               | 20               |
| 30    | 190.5              | 182.25             | 16               | 20               | 20               |
| 31    | 196.3              | 188.31             | 20               | 20               | 25               |
| 32    | 203.3              | 194.35             | 20               | 20               | 25               |
| 33    | 209.3              | 200.40             | 20               | 20               | 25               |
| 34    | 214.6              | 206.46             | 20               | 20               | 25               |
| 35    | 221.0              | 212.52             | 20               | 20               | 25               |
| 36    | 226.8              | 218.58             | 20               | 25               | 25               |
| 37    | 232.9              | 224.64             | 20               | 25               | 25               |
| 38    | 239.0              | 230.69             | 20               | 25               | 25               |
| 39    | 245.1              | 236.75             | 20               | 25               | 25               |
| 40    | 251.3              | 242.81             | 20               | 25               | 25               |
| 41    | 257.3              | 248.87             | 25               | 25               | 25               |
| 42    | 264.5              | 254.93             | 25               | 25               | 25               |
| 43    | 270.5              | 260.98             | 25               | 25               | 25               |

| Teeth | Outer Dia<br>$d_e$ | Pitch Dia<br>$d_p$ | Simplex          | Duplex           | Triplex          |
|-------|--------------------|--------------------|------------------|------------------|------------------|
|       |                    |                    | Stock Bore<br>D1 | Stock Bore<br>D1 | Stock Bore<br>D1 |
| 44    | 276.5              | 267.04             | 25               | 25               | 25               |
| 45    | 282.5              | 273.10             | 25               | 25               | 25               |
| 46    | 287.9              | 279.16             | 25               | 25               | 25               |
| 47    | 294.0              | 285.21             | 25               | 25               | 25               |
| 48    | 300.1              | 291.27             | 25               | 25               | 25               |
| 49    | 306.2              | 297.33             | 25               | 25               | 25               |
| 50    | 312.3              | 303.39             | 25               | 25               | 25               |
| 51    | 318.4              | 309.45             | 25               | 25               | 25               |
| 52    | 324.5              | 315.50             | 25               | 25               | 25               |
| 53    | 330.5              | 321.56             | 25               | 25               | 25               |
| 54    | 336.6              | 327.64             | 25               | 25               | 25               |
| 55    | 342.7              | 333.70             | 25               | 25               | 25               |
| 56    | 348.7              | 339.75             | 25               | 25               | 30               |
| 57    | 355.4              | 345.81             | 25               | 25               | 30               |
| 58    | 361.5              | 351.87             | 25               | 25               | 30               |
| 59    | 367.5              | 357.93             | 25               | 25               | 30               |
| 60    | 373.0              | 363.99             | 25               | 25               | 30               |
| 62    | 385.1              | 376.12             | 25               | 30               | 30               |
| 64    | 397.2              | 388.24             | 25               | 30               | 30               |
| 65    | 403.2              | 394.29             | 25               | 30               | 30               |
| 66    | 409.2              | 400.35             | 30               | 30               | 30               |
| 68    | 421.4              | 412.49             | 30               | 30               | 30               |
| 70    | 433.6              | 424.60             | 30               | 30               | 30               |
| 72    | 447.0              | 436.74             | 30               | 30               | 30               |
| 75    | 463.9              | 454.91             | 30               | 30               | 30               |
| 76    | 469.9              | 460.99             | 30               | 30               | 30               |
| 78    | 482.1              | 473.10             | 30               | 30               | 30               |
| 80    | 494.2              | 485.22             | 30               | 30               | 30               |
| 85    | 524.5              | 515.55             | 30               | 30               | 30               |
| 90    | 554.8              | 545.86             | 30               | 30               | 30               |
| 95    | 585.1              | 576.17             | 30               | 30               | 30               |
| 100   | 615.4              | 606.47             | 30               | 30               | 30               |
| 110   | 676.1              | 667.11             | 30               | 30               | 30               |
| 114   | 700.6              | 691.36             | 30               | 30               | 30               |
| 120   | 736.7              | 727.74             | 30               | 30               | 30               |
| 125   | 767.0              | 758.05             | 30               | 30               | 30               |

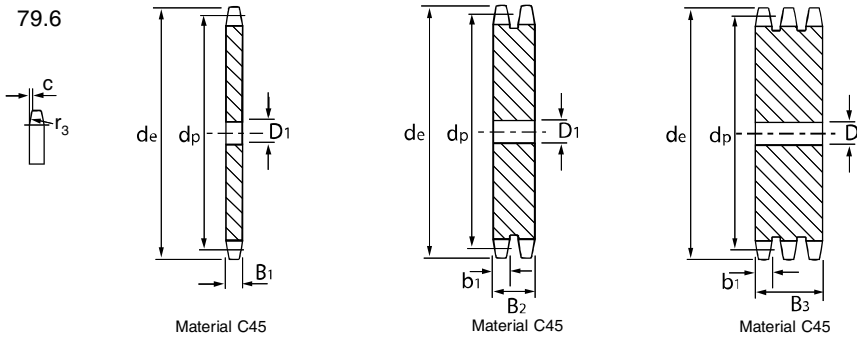
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

**16B 1" x 17.02mm**

| SPROCKET           |      | CHAIN                      |        |
|--------------------|------|----------------------------|--------|
|                    | mm   |                            | mm     |
| Tooth Radius $r_3$ | 26.0 | Pitch                      | 25.400 |
| Chamfer c          | 2.5  | Width Between Inner Plates | 17.020 |
| Tooth Width $b_1$  | 15.8 | Roller Diameter            | 15.880 |
| Tooth Width $B_1$  | 16.2 |                            |        |
| Tooth Width $B_2$  | 47.7 |                            |        |
| Tooth Width $B_3$  | 79.6 |                            |        |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 77.0         | 66.37        | 12            | 16            | 20            |
| 9     | 85.0         | 74.27        | 12            | 16            | 20            |
| 10    | 93.0         | 82.19        | 12            | 16            | 20            |
| 11    | 99.5         | 90.14        | 16            | 20            | 20            |
| 12    | 109.0        | 98.14        | 16            | 20            | 20            |
| 13    | 117.0        | 106.12       | 16            | 20            | 20            |
| 14    | 125.0        | 114.15       | 16            | 20            | 20            |
| 15    | 133.0        | 122.17       | 16            | 20            | 20            |
| 16    | 141.0        | 130.20       | 20            | 20            | 30            |
| 17    | 149.0        | 138.22       | 20            | 20            | 30            |
| 18    | 157.0        | 146.28       | 20            | 20            | 30            |
| 19    | 165.2        | 154.33       | 20            | 20            | 30            |
| 20    | 173.2        | 162.38       | 20            | 20            | 30            |
| 21    | 181.2        | 170.43       | 20            | 25            | 30            |
| 22    | 189.3        | 178.48       | 20            | 25            | 30            |
| 23    | 197.5        | 186.53       | 20            | 25            | 30            |
| 24    | 205.5        | 194.59       | 20            | 25            | 30            |
| 25    | 213.5        | 202.66       | 20            | 25            | 30            |
| 26    | 221.6        | 210.72       | 20            | 25            | 30            |
| 27    | 229.6        | 218.79       | 20            | 25            | 30            |
| 28    | 237.7        | 226.85       | 20            | 25            | 30            |
| 29    | 245.8        | 234.92       | 20            | 25            | 30            |
| 30    | 254.0        | 243.00       | 20            | 25            | 30            |
| 31    | 262.0        | 251.08       | 25            | 25            | 30            |
| 32    | 270.0        | 259.13       | 25            | 25            | 30            |
| 33    | 278.5        | 267.21       | 25            | 25            | 30            |
| 34    | 287.0        | 275.28       | 25            | 25            | 30            |
| 35    | 296.2        | 283.36       | 25            | 25            | 30            |
| 36    | 304.6        | 291.44       | 25            | 25            | 30            |
| 37    | 312.6        | 299.51       | 25            | 25            | 30            |
| 38    | 320.7        | 307.59       | 25            | 25            | 30            |
| 39    | 328.8        | 315.67       | 25            | 25            | 30            |
| 40    | 336.9        | 323.75       | 25            | 25            | 30            |
| 41    | 345.0        | 331.82       | 25            | -             | -             |
| 42    | 353.0        | 339.90       | 25            | 25            | 30            |
| 43    | 361.1        | 347.98       | 25            | 25            | -             |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 44    | 369.1        | 356.06       | 25            | 25            | 30            |
| 45    | 377.1        | 364.13       | 25            | 25            | 30            |
| 46    | 385.2        | 372.21       | 25            | 30            | 30            |
| 47    | 393.2        | 380.29       | 25            | -             | -             |
| 48    | 401.3        | 388.36       | 25            | 30            | 30            |
| 49    | 409.3        | 396.44       | 25            | -             | -             |
| 50    | 417.4        | 404.52       | 25            | 30            | 30            |
| 51    | 425.5        | 412.60       | 30            | 30            | 40            |
| 52    | 433.6        | 420.67       | 30            | 30            | 40            |
| 53    | 441.7        | 428.75       | 30            | -             | -             |
| 54    | 448.3        | 436.85       | 30            | -             | -             |
| 55    | 457.9        | 444.93       | 30            | 30            | 40            |
| 56    | 466.0        | 453.01       | 30            | 40            | 40            |
| 57    | 474.0        | 461.07       | 30            | 40            | 40            |
| 58    | 482.1        | 469.16       | 30            | -             | -             |
| 59    | 490.2        | 477.24       | 30            | -             | -             |
| 60    | 498.3        | 485.32       | 30            | 40            | 40            |
| 62    | 514.5        | 501.50       | 30            | 40            | -             |
| 64    | 530.7        | 517.65       | 30            | -             | -             |
| 65    | 538.8        | 525.73       | 30            | 40            | 40            |
| 66    | 546.8        | 533.80       | 30            | -             | -             |
| 68    | 562.9        | 549.98       | 30            | 40            | 40            |
| 70    | 579.2        | 566.14       | 30            | 40            | 40            |
| 72    | 595.4        | 582.32       | 30            | 40            | 40            |
| 75    | 619.7        | 606.55       | 30            | 40            | 40            |
| 76    | 627.0        | 614.65       | 30            | 40            | 40            |
| 78    | 643.3        | 630.80       | 30            | -             | -             |
| 80    | 660.0        | 646.96       | 30            | 40            | 40            |
| 85    | 699.9        | 687.40       | 30            | 40            | 40            |
| 90    | 740.3        | 727.81       | 30            | 40            | 40            |
| 95    | 781.1        | 768.22       | 30            | 40            | 40            |
| 100   | 821.1        | 808.63       | 30            | 40            | 40            |
| 110   | 902.0        | 889.48       | 30            | 40            | 40            |
| 114   | 934.3        | 921.81       | 30            | 40            | 40            |
| 120   | 982.8        | 970.33       | 30            | 40            | 40            |
| 125   | 1023.2       | 1010.73      | 30            | 40            | 40            |

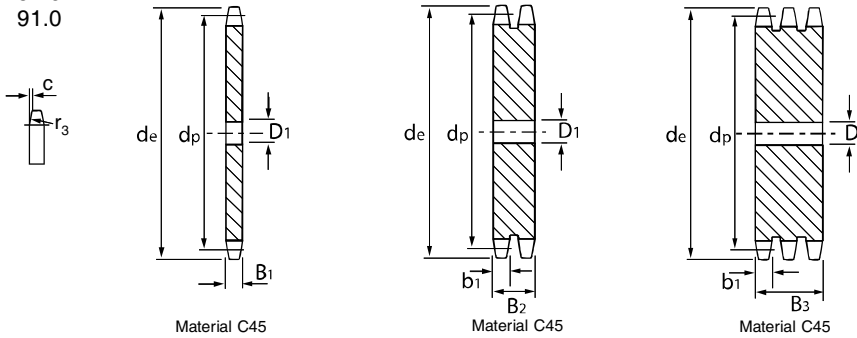
Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused. All dimensions in millimetres unless otherwise stated.

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

### 20B 1.1/4 x 19.56mm

| SPROCKET        |      | CHAIN                      |        |
|-----------------|------|----------------------------|--------|
|                 | mm   |                            | mm     |
| Tooth Radius r3 | 32.0 | Pitch                      | 31.750 |
| Chamfer c       | 3.5  | Width Between Inner Plates | 19.560 |
| Tooth Width b1  | 18.2 | Roller Diameter            | 19.050 |
| Tooth Width B1  | 18.5 |                            |        |
| Tooth Width B2  | 54.6 |                            |        |
| Tooth Width B3  | 91.0 |                            |        |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 98.1         | 82.96        | 16            | 20            | 20            |
| 9     | 108.0        | 92.84        | 16            | 20            | 20            |
| 10    | 117.9        | 102.74       | 16            | 20            | 20            |
| 11    | 127.8        | 112.68       | 20            | 20            | 25            |
| 12    | 137.8        | 122.68       | 20            | 20            | 25            |
| 13    | 147.8        | 132.65       | 20            | 20            | 25            |
| 14    | 157.8        | 142.68       | 20            | 20            | 25            |
| 15    | 167.9        | 152.72       | 20            | 20            | 25            |
| 16    | 177.9        | 162.75       | 20            | 30            | 30            |
| 17    | 187.9        | 172.78       | 20            | 30            | 30            |
| 18    | 198.0        | 182.85       | 20            | 30            | 30            |
| 19    | 208.1        | 192.91       | 20            | 30            | 30            |
| 20    | 218.1        | 202.98       | 20            | 30            | 30            |
| 21    | 228.2        | 213.04       | 25            | 30            | 30            |
| 22    | 238.3        | 223.11       | 25            | 30            | 30            |
| 23    | 248.3        | 233.17       | 25            | 30            | 30            |
| 24    | 258.4        | 243.23       | 25            | 30            | 30            |
| 25    | 268.5        | 253.33       | 25            | 30            | 30            |
| 26    | 278.6        | 263.40       | 30            | 30            | 30            |
| 27    | 288.6        | 273.40       | 30            | 30            | 30            |
| 28    | 298.7        | 283.56       | 30            | 30            | 30            |
| 29    | 308.8        | 293.65       | 30            | 30            | 30            |
| 30    | 318.9        | 303.75       | 30            | 30            | 30            |
| 31    | 329.0        | 313.85       | 30            | 30            | 30            |
| 32    | 339.1        | 323.91       | 30            | 30            | 30            |
| 33    | 349.2        | 334.01       | 30            | 30            | 30            |
| 34    | 359.3        | 344.10       | 30            | 30            | 30            |
| 35    | 369.4        | 354.20       | 30            | 30            | 30            |
| 36    | 379.5        | 364.30       | 30            | 30            | 30            |
| 37    | 389.5        | 374.39       | 30            | 30            | 30            |
| 38    | 399.6        | 384.49       | 30            | 30            | 30            |
| 39    | 409.7        | 394.59       | 30            | 30            | 30            |
| 40    | 419.8        | 404.66       | 30            | 30            | 30            |
| 41    | 429.9        | 414.78       | 30            | -             | -             |

| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 42    | 440.0        | 424.80       | 30            | 30            | 40            |
| 43    | 450.1        | 434.97       | 30            | -             | -             |
| 44    | 460.2        | 445.07       | 30            | -             | -             |
| 45    | 470.3        | 455.07       | 30            | 30            | 40            |
| 46    | 480.4        | 465.26       | 30            | 30            | 40            |
| 47    | 490.5        | 475.36       | 30            | -             | -             |
| 48    | 500.6        | 485.46       | 30            | 30            | 40            |
| 49    | 510.7        | 495.55       | 30            | -             | -             |
| 50    | 520.8        | 505.65       | 30            | 30            | 40            |
| 51    | 530.9        | 515.75       | 30            | -             | -             |
| 52    | 541.0        | 525.84       | 30            | 40            | 40            |
| 53    | 551.1        | 535.94       | 30            | -             | -             |
| 54    | 561.2        | 546.07       | 30            | -             | -             |
| 55    | 571.3        | 556.16       | 30            | 40            | 40            |
| 56    | 581.4        | 566.26       | 30            | -             | -             |
| 57    | 591.5        | 576.36       | 30            | 40            | 40            |
| 58    | 601.6        | 586.45       | 30            | -             | -             |
| 59    | 611.7        | 596.55       | 30            | -             | -             |
| 60    | 621.8        | 606.65       | 30            | 40            | 40            |
| 62    | 642.0        | 626.87       | 30            | -             | -             |
| 64    | 662.2        | 647.06       | 30            | -             | -             |
| 65    | 672.3        | 657.16       | 30            | 40            | 40            |
| 66    | 682.4        | 667.26       | 30            | -             | -             |
| 68    | 702.6        | 687.48       | 30            | -             | -             |
| 70    | 722.8        | 707.67       | 30            | 40            | 40            |
| 72    | 743.1        | 727.90       | 30            | -             | -             |
| 75    | 773.3        | 758.19       | 30            | -             | -             |
| 76    | 783.5        | 768.32       | 30            | 40            | 40            |
| 80    | 823.9        | 808.72       | 30            | 40            | 40            |
| 85    | 874.4        | 859.25       | 30            | -             | -             |
| 90    | 924.9        | 909.76       | 30            | -             | -             |
| 95    | 975.2        | 960.28       | 30            | 40            | 40            |
| 100   | 1026.0       | 1010.79      | 40            | -             | -             |
| 114   | 1167.4       | 1152.26      | 40            | 40            | 40            |

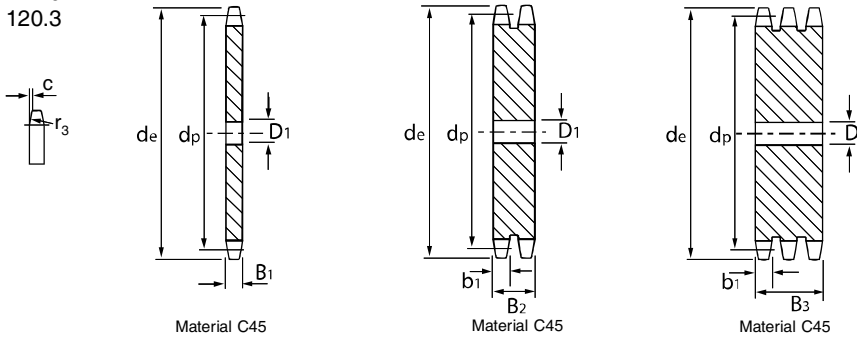
All dimensions in millimetres unless otherwise stated. Every effort has been taken to ensure that the data listed in this catalogue is correct. Challenge accepts no liability for any inaccuracies or damage caused

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

### 24B 1.1/2" x 25.4mm

| SPROCKET           |       | CHAIN                      |        |
|--------------------|-------|----------------------------|--------|
|                    | mm    |                            | mm     |
| Tooth Radius $r_3$ | 38.0  | Pitch                      | 38.100 |
| Chamfer c          | 4.0   | Width Between Inner Plates | 25.400 |
| Tooth Width $b_1$  | 23.6  | Roller Diameter            | 25.400 |
| Tooth Width $B_1$  | 24.1  |                            |        |
| Tooth Width $B_2$  | 72.0  |                            |        |
| Tooth Width $B_3$  | 120.3 |                            |        |



| Teeth | Outer Dia<br>de | Pitch Dia<br>dp | Simplex       | Duplex        | Triplex       |
|-------|-----------------|-----------------|---------------|---------------|---------------|
|       |                 |                 | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 115.0           | 99.50           | 20            | 25            | 25            |
| 9     | 126.4           | 111.40          | 20            | 25            | 25            |
| 10    | 138.0           | 123.90          | 20            | 25            | 25            |
| 11    | 150.0           | 135.21          | 25            | 25            | 30            |
| 12    | 162.0           | 147.22          | 25            | 25            | 30            |
| 13    | 174.2           | 159.18          | 25            | 25            | 30            |
| 14    | 186.2           | 171.22          | 25            | 25            | 30            |
| 15    | 198.2           | 183.26          | 25            | 25            | 30            |
| 16    | 210.3           | 195.30          | 25            | 30            | 30            |
| 17    | 222.3           | 207.34          | 25            | 30            | 30            |
| 18    | 234.3           | 219.42          | 25            | 30            | 30            |
| 19    | 246.5           | 231.49          | 25            | 30            | 30            |
| 20    | 258.6           | 243.57          | 25            | 30            | 30            |
| 21    | 270.6           | 255.65          | 30            | 30            | 40            |
| 22    | 282.7           | 267.73          | 30            | 30            | 40            |
| 23    | 294.8           | 279.80          | 30            | 30            | 40            |
| 24    | 306.8           | 291.88          | 30            | 30            | 40            |
| 25    | 319.0           | 304.00          | 30            | 30            | 40            |
| 26    | 331.0           | 316.08          | 30            | 30            | 40            |
| 27    | 343.2           | 328.19          | 30            | 30            | 40            |
| 28    | 355.2           | 340.27          | 30            | 30            | 40            |
| 29    | 367.3           | 352.38          | 30            | 30            | 40            |
| 30    | 379.5           | 364.50          | 30            | 30            | 40            |
| 31    | 391.6           | 376.62          | 30            | 40            | 40            |
| 32    | 403.7           | 388.69          | 30            | 40            | 40            |
| 33    | 415.8           | 400.81          | 30            | 40            | 40            |
| 34    | 427.8           | 412.93          | 30            | 40            | 40            |
| 35    | 440.0           | 425.04          | 30            | 40            | 40            |
| 36    | 452.0           | 437.16          | 30            | 40            | 40            |
| 37    | 464.2           | 449.27          | 30            | 40            | 40            |
| 38    | 476.2           | 461.39          | 30            | 40            | 40            |
| 39    | 488.5           | 473.50          | 30            | 40            | 40            |
| 40    | 500.6           | 485.62          | 30            | 40            | 40            |

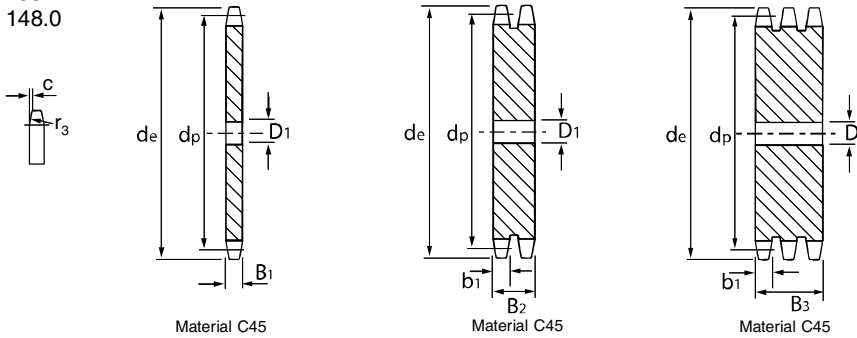
| Teeth | Outer Dia<br>de | Pitch Dia<br>dp | Simplex       | Duplex        | Triplex       |
|-------|-----------------|-----------------|---------------|---------------|---------------|
|       |                 |                 | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 41    | 512.6           | 497.74          | 30            | -             | -             |
| 42    | 524.7           | 509.85          | 30            | 40            | 40            |
| 43    | 536.8           | 521.97          | 30            | -             | -             |
| 44    | 549.0           | 534.08          | 30            | -             | -             |
| 45    | 561.2           | 546.20          | 30            | 40            | 40            |
| 46    | 573.3           | 558.32          | 30            | 40            | 40            |
| 47    | 585.4           | 570.43          | 30            | -             | -             |
| 48    | 597.4           | 582.55          | 30            | 40            | 40            |
| 49    | 609.5           | 594.66          | 30            | -             | -             |
| 50    | 621.7           | 606.78          | 30            | 40            | 40            |
| 51    | 633.8           | 618.89          | 30            | -             | -             |
| 52    | 646.0           | 631.01          | 30            | -             | -             |
| 53    | 658.0           | 643.13          | 30            | -             | -             |
| 54    | 670.2           | 655.25          | 30            | -             | -             |
| 55    | 682.3           | 667.40          | 30            | 40            | 40            |
| 56    | 694.4           | 679.50          | 30            | -             | -             |
| 57    | 706.5           | 691.73          | 30            | 40            | 40            |
| 58    | 718.6           | 703.74          | 30            | -             | -             |
| 59    | 730.7           | 715.86          | 30            | -             | -             |
| 60    | 742.8           | 727.97          | 30            | 40            | 40            |
| 62    | 767.2           | 752.24          | 40            | -             | -             |
| 64    | 791.3           | 776.48          | 40            | -             | -             |
| 65    | 803.4           | 788.59          | 40            | 40            | 40            |
| 66    | 815.6           | 800.17          | 40            | -             | -             |
| 68    | 839.8           | 824.98          | 40            | -             | -             |
| 70    | 864.2           | 849.21          | 40            | -             | -             |
| 72    | 888.4           | 873.48          | 40            | -             | -             |
| 75    | 924.8           | 909.83          | 40            | -             | -             |
| 76    | 936.9           | 921.98          | 40            | 40            | 40            |
| 80    | 985.4           | 970.44          | 40            | -             | -             |
| 85    | 1046.0          | 1031.10         | 40            | -             | -             |
| 95    | 1167.3          | 1152.33         | 40            | -             | -             |

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

**28B 1.3/4" x 1.1/4"**

| SPROCKET           |       | CHAIN                      |        |
|--------------------|-------|----------------------------|--------|
|                    | mm    |                            | mm     |
| Tooth Radius $r_3$ | 44.0  | Pitch                      | 44.450 |
| Chamfer c          | 5.0   | Width Between Inner Plates | 30.990 |
| Tooth Width B1     | 29.4  | Roller Diameter            | 27.940 |
| Tooth Width b1     | 28.8  |                            |        |
| Tooth Width B2     | 88.4  |                            |        |
| Tooth Width B3     | 148.0 |                            |        |



| Teeth | Outer Dia<br>de | Pitch Dia<br>dp | Simplex       | Duplex        | Triplex       |
|-------|-----------------|-----------------|---------------|---------------|---------------|
|       |                 |                 | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 132.0           | 116.15          | 25            | 25            | 25            |
| 9     | 148.4           | 129.96          | 25            | 25            | 25            |
| 10    | 162.3           | 143.85          | 25            | 25            | 25            |
| 11    | 176.3           | 157.77          | 25            | 30            | 30            |
| 12    | 189.3           | 171.74          | 25            | 30            | 30            |
| 13    | 204.2           | 185.75          | 25            | 30            | 30            |
| 14    | 218.2           | 199.76          | 25            | 30            | 30            |
| 15    | 232.3           | 213.79          | 25            | 30            | 30            |
| 16    | 246.3           | 227.84          | 30            | 30            | 30            |
| 17    | 260.0           | 241.90          | 30            | 30            | 30            |
| 18    | 274.0           | 255.98          | 30            | 30            | 30            |
| 19    | 289.0           | 270.06          | 30            | 30            | 30            |
| 20    | 303.0           | 284.15          | 30            | 30            | 30            |
| 21    | 317.0           | 298.24          | 30            | 30            | 40            |
| 22    | 331.0           | 312.34          | 30            | 30            | 40            |
| 23    | 345.0           | 326.44          | 30            | 30            | 40            |
| 24    | 359.0           | 340.55          | 30            | 30            | 40            |
| 25    | 373.0           | 354.66          | 30            | 30            | 40            |
| 26    | 387.0           | 368.77          | 30            | 40            | 40            |

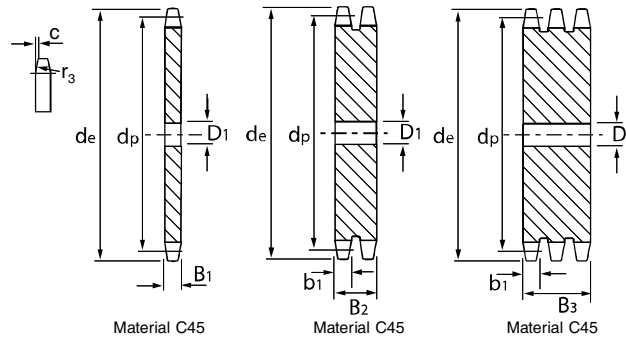
| Teeth | Outer Dia<br>de | Pitch Dia<br>dp | Simplex       | Duplex        | Triplex       |
|-------|-----------------|-----------------|---------------|---------------|---------------|
|       |                 |                 | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 27    | 401.0           | 382.77          | 30            | 40            | 40            |
| 28    | 416.0           | 397.00          | 30            | 40            | 40            |
| 29    | 430.0           | 411.12          | 30            | 40            | 40            |
| 30    | 444.0           | 425.24          | 30            | 40            | 40            |
| 31    | 458.0           | 439.37          | 30            | 40            | 40            |
| 32    | 472.0           | 453.49          | 30            | 40            | 40            |
| 33    | 486.0           | 467.62          | 30            | 40            | 40            |
| 34    | 500.0           | 481.75          | 30            | 40            | 40            |
| 35    | 514.0           | 495.88          | 30            | 40            | 40            |
| 36    | 529.0           | 510.01          | 30            | 40            | 40            |
| 37    | 543.0           | 524.13          | 30            | 40            | 40            |
| 38    | 557.0           | 538.27          | 30            | 40            | 40            |
| 39    | 571.0           | 552.40          | 30            | 40            | 40            |
| 40    | 585.0           | 566.54          | 30            | 40            | 40            |
| 45    | 656.0           | 637.22          | 30            | 40            | 40            |
| 50    | 726.0           | 707.91          | 30            | 40            | 40            |
| 57    | 825.0           | 806.90          | 40            | 40            | 40            |
| 60    | 869.0           | 849.32          | 40            | 40            | 40            |
| 76    | 1095.0          | 1075.62         | 40            | 40            | 40            |

# Plate Wheel Sprockets

## BS Pilot Bore Plate Wheels

**32B 2" x 1.1/4"**

| SPROCKET           | mm    | CHAIN                      | mm     |
|--------------------|-------|----------------------------|--------|
| Tooth Radius $r_3$ | 51.0  | Pitch                      | 50.800 |
| Chamfer c          | 6.0   | Width Between Inner Plates | 30.990 |
| Tooth Width B1     | 29.4  | Roller Diameter            | 29.210 |
| Tooth Width b1     | 28.8  |                            |        |
| Tooth Width B2     | 87.4  |                            |        |
| Tooth Width B3     | 146.0 |                            |        |



| Teeth | Outer Dia de | Pitch Dia dp | Simplex       | Duplex        | Triplex       |
|-------|--------------|--------------|---------------|---------------|---------------|
|       |              |              | Stock Bore D1 | Stock Bore D1 | Stock Bore D1 |
| 8     | 153.2        | 132.74       | 25            | 25            | 25            |
| 9     | 169.0        | 148.54       | 25            | 25            | 25            |
| 10    | 185.0        | 164.39       | 25            | 25            | 25            |
| 11    | 200.8        | 180.31       | 30            | 35            | 35            |
| 12    | 216.8        | 196.29       | 30            | 35            | 35            |
| 13    | 232.8        | 212.29       | 30            | 35            | 35            |
| 14    | 248.8        | 228.29       | 30            | 35            | 35            |
| 15    | 264.8        | 244.30       | 30            | 35            | 35            |
| 16    | 280.9        | 260.40       | 30            | 40            | 40            |
| 17    | 296.9        | 276.46       | 30            | 40            | 40            |
| 18    | 313.0        | 292.55       | 30            | 40            | 40            |
| 19    | 329.1        | 308.66       | 30            | 40            | 40            |
| 20    | 345.2        | 324.71       | 30            | 40            | 40            |
| 21    | 361.3        | 340.82       | 40            | 40            | 40            |
| 22    | 377.5        | 356.98       | 40            | 40            | 40            |
| 23    | 393.6        | 373.08       | 40            | 40            | 40            |
| 24    | 409.7        | 389.18       | 40            | 40            | 40            |
| 25    | 425.8        | 405.33       | 40            | 40            | 40            |
| 26    | 441.9        | 421.44       | 40            | 40            | 40            |
| 27    | 458.1        | 437.69       | 40            | 40            | 40            |
| 28    | 474.2        | 453.69       | 40            | 40            | 40            |
| 29    | 490.2        | 469.85       | 40            | 40            | 40            |
| 30    | 506.5        | 486.00       | 40            | 40            | 40            |
| 32    | 538.8        | 518.27       | 40            | 40            | 40            |
| 35    | 589.5        | 566.71       | 40            | 40            | 40            |
| 38    | 635.5        | 615.16       | 40            | 40            | 40            |
| 40    | 670.3        | 647.47       | 40            | 40            | 40            |
| 45    | 751.0        | 728.24       | 40            | 40            | 40            |
| 50    | 831.8        | 809.04       | 40            | 40            | 40            |
| 57    | 945.0        | 922.16       | 40            | 40            | 40            |
| 60    | 993.4        | 970.65       | 40            | 40            | 40            |
| 76    | 1252.0       | 1229.27      | 40            | 40            | 40            |