

**Gearbox Type:**

**M**

Speed Range: 12 – 680 r.p.m.

**Single Reduction Worm Gear Units**

**1 or 3 Phase Induction Motors – Constant Speed**

Enclosures: Standard – Ventilated Internal Fan Cooled (IP 20)  
Alternative – Totally Enclosed (IP 50) with Terminal Box or T.E.F.C. (IP 54)



**SD 28 M**



**SD 8 M (T.E.F.C.)**



**SD 38 M**



**SD 13 M with brake**

■ **Voltage, Construction, Connections, Motor Performance Specifications and Optional Extras** see pages 6, 8 and 10 for full details.  
Hollow shaft available on request. Maximum internal diameter 8mm.

(1 Nm = 8.85 lbs. ins.) (1 Nm = 10.2 cmkp)

| Gearbox Specification<br>Motor Speed<br>1400 r.p.m. |          | SD 8 M – SD 38 M<br>1 or 3 Phase<br>Motor Rating<br>35 watts |        | SD 28 M – SD 29 M<br>1 or 3 Phase<br>Motor Rating<br>55 watts |        | SD 13 M – SD 18 M<br>1 Phase<br>Motor Rating<br>100 watts |        | SD 13 M – SD 18 M<br>3 Phase<br>Motor Rating<br>125 watts |        | SD 18 M (Capacitor start<br>induction run)<br>1 Phase<br>Motor Rating<br>95 watts |        |
|---|----------|--|--------|---|--------|---|--------|---|--------|---|--------|
| FINAL R.P.M.  | RATIO    | OUTPUT TORQUE (Nm)   |        |   |        |   |        |   |        |   |        |
|   |          | COMPOSITE  | BRONZE | COMPOSITE   | BRONZE | COMPOSITE   | BRONZE | COMPOSITE   | BRONZE | COMPOSITE   | BRONZE |
| 20  | 72:1     | 5.1  | 6.6    | 5.1   | 7.3    | -   | -      | -   | -      | -   | -      |
| 21  | 66:1     | 5.1  | 6.5    | 5.1   | 7.3    | -   | -      | -   | -      | -   | -      |
| 23  | 60:1     | 5.1  | 6.3    | 5.9   | 7.9    | -   | -      | -   | -      | -   | -      |
| 26  | 54:1     | 4.9  | -      | 5.9   | 7.9    | -   | -      | -   | -      | -   | -      |
| 29  | 48:1     | 4.6  | -      | 5.9   | 7.9    | -   | -      | -   | -      | -   | 7.9    |
| 32  | 44:1     | 4.4  | -      | 5.9   | 7.3    | 5.9   | 7.9    | 5.9   | 7.9    | 5.9   | 7.9    |
| 35  | 40:1     | 4  | -      | 6.3   | -      | 7.9   | 11.4   | 7.9   | 11.8   | 7.9   | 10.9   |
| 39  | 36:1     | 3.8  | -      | 6   | -      | 7.9   | 10.9   | 7.9   | 11.8   | 7.9   | 10.3   |
| 42  | 33:1     | 3.7  | -      | 5.8   | -      | 7.9   | 10.6   | 7.9   | 11.8   | 7.9   | 10     |
| 47  | 30:1     | 3.4  | -      | 5.3   | -      | 7.9   | 9.7    | 7.9   | 11.8   | 7.9   | 9.2    |
| 52  | 27:1     | 3.2  | -      | 5   | -      | 7.9   | 9.1    | 7.9   | 11.4   | 7.9   | 8.7    |
| 56  | 25:1     | 3  | -      | 4.7   | -      | 7.9   | 8.6    | 7.9   | 10.7   | 7.9   | 8.2    |
| 62  | 22 1/2:1 | 2.8  | -      | 4.4   | -      | 7.9   | 8      | 7.9   | 10     | 7.6   | -      |
| 68  | 20 1/2:1 | 2.7  | -      | 4.2   | -      | 7.7   | -      | 7.9   | 9.6    | 7.3   | -      |
| 75  | 18 1/2:1 | 2.5  | -      | 3.9   | -      | 7.1   | -      | 7.9   | 8.9    | 6.8   | -      |
| 85  | 16 1/2:1 | 2.3  | -      | 5.2   | -      | 6.6   | -      | 7.9   | 8.2    | 6.2   | -      |
| 90  | 15 1/2:1 | 2.2  | -      | 3.4   | -      | 6.3   | -      | 7.9   | -      | 5.9   | -      |
| 97  | 14 1/2:1 | 2.1  | -      | 3.3   | -      | 6   | -      | 7.5   | -      | 5.7   | -      |
| 105   | 13 1/3:1 | 2  | -      | 3.1   | -      | 5.7   | -      | 7   | -      | 5.4   | -      |
| 113   | 12 1/3:1 | 1.9  | -      | 3   | -      | 5.4   | -      | 6.8   | -      | 5.2   | -      |
| 123   | 11 1/3:1 | 1.8  | -      | 2.8   | -      | 5.1   | -      | 6.4   | -      | 4.9   | -      |
| 135   | 10 1/3:1 | 1.7  | -      | 2.7   | -      | 4.8   | -      | 6   | -      | 4.6   | -      |
| 150   | 9 1/3:1  | 1.6  | -      | 2.5   | -      | 4.6   | -      | 5.7   | -      | 4.3   | -      |
| 168   | 8 1/3:1  | 1.4  | -      | 2.2   | -      | 4   | -      | 5   | -      | 3.8   | -      |
| 193   | 7 1/4:1  | 1.3  | -      | 2.1   | -      | 3.7   | -      | 4.6   | -      | 3.5   | -      |
| 227   | 6 1/6:1  | 1.1  | -      | 1.7   | -      | 3.1   | -      | 3.9   | -      | 3   | -      |
| 273   | 5 1/8:1  | 0.9  | -      | 1.4   | -      | 2.5   | -      | 3.2   | -      | 2.4   | -      |
| 340   | 4 1/8:1  | 0.8  | -      | 1.2   | -      | 2.2   | -      | 2.9   | -      | 2.2   | -      |

| Gearbox Specification<br>Motor Speed<br>2800 r.p.m. |          | SD 8 M – 38 M<br>1 or 3 Phase<br>Motor Rating<br>60 watts |           | SD 28 M – 29 M<br>1 Phase<br>Motor Rating<br>100 watts |           | SD 28 M – 29 M<br>3 Phase<br>Motor Rating<br>120 watts |           | SD 13 M – 18 M<br>1 Phase<br>Motor Rating<br>150 watts |           | SD 13 M – 18 M<br>3 Phase<br>Motor Rating<br>190 watts |           |
|---|----------|---|-----------|--|-----------|--|-----------|--|-----------|--|-----------|
| FINAL R.P.M.  | RATIO    | OUTPUT TORQUE (Nm)  |           |  |           |  |           |  |           |  |           |
|   |          | COMPOSITE   | COMPOSITE | BRONZE   | COMPOSITE | BRONZE   | COMPOSITE | BRONZE   | COMPOSITE | BRONZE   | COMPOSITE |
| 40  | 72:1     | 5.1   | -         | -  | -         | -  | -         | -  | -         | -  | -         |
| 42  | 66:1     | 4.8   | -         | -  | -         | -  | -         | -  | -         | -  | -         |
| 46  | 60:1     | 4.6   | 5.9       | 7.2  | 5.9       | 7.9  | 5.9       | 7.3  | 5.9       | 7.9  | -         |
| 52  | 54:1     | 4.2   | 5.9       | 6.8  | 5.9       | 7.9  | 5.9       | 7.3  | 5.9       | 7.9  | -         |
| 58  | 48:1     | 4   | 5.9       | 6.3  | 5.9       | 7.6  | 5.9       | 7.3  | 5.9       | 7.9  | -         |
| 64  | 44:1     | 3.8   | 5.9       | -  | 5.9       | 7.1  | 5.9       | 7.9  | 5.9       | 7.9  | -         |
| 70  | 40:1     | 3.6   | 6         | -  | 5.9       | 6.8  | 7.9       | 9  | 7.9       | 11.4   | -         |
| 78  | 36:1     | 3.3   | 5.5       | -  | 5.9       | 6.2  | 7.9       | 8.3  | 7.9       | 10.5   | -         |
| 84  | 33:1     | 3.1   | 5.2       | -  | 5.9       | 6  | 7.8       | -  | 7.9       | 9.8  | -         |
| 93  | 30:1     | 2.9   | 4.8       | -  | 5.8       | -  | 7.3       | -  | 7.9       | 9.2  | -         |
| 104   | 27:1     | 2.7   | 4.5       | -  | 5.4       | -  | 6.7       | -  | 7.9       | 8.6  | -         |
| 112   | 25:1     | 2.6   | 4.3       | -  | 5.2       | -  | 6.5       | -  | 7.9       | 8.2  | -         |
| 124   | 22 1/2:1 | 2.4   | 4         | -  | 4.8       | -  | 6         | -  | 7.6       | -  | -         |
| 136   | 20 1/2:1 | 2.3   | 3.8       | -  | 4.6       | -  | 5.7       | -  | 7.3       | -  | -         |
| 152   | 18 1/2:1 | 2.1   | 3.5       | -  | 4.2       | -  | 5.3       | -  | 6.7       | -  | -         |
| 170   | 16 1/2:1 | 2   | 3.3       | -  | 4         | -  | 5         | -  | 6.3       | -  | -         |
| 180   | 15 1/2:1 | 1.9   | 3.2       | -  | 3.8       | -  | 4.7       | -  | 6         | -  | -         |
| 194   | 14 1/2:1 | 1.8   | 3         | -  | 3.6       | -  | 4.5       | -  | 5.7       | -  | -         |
| 210   | 13 1/3:1 | 1.7   | 2.8       | -  | 3.4       | -  | 4.3       | -  | 5.4       | -  | -         |
| 226   | 12 1/3:1 | 1.7   | 2.8       | -  | 3.4       | -  | 4.3       | -  | 5.3       | -  | -         |
| 250   | 11 1/3:1 | 1.6   | 2.7       | -  | 3.2       | -  | 4         | -  | 5.1       | -  | -         |
| 270   | 10 1/3:1 | 1.4   | 2.3       | -  | 2.8       | -  | 3.5       | -  | 4.4       | -  | -         |
| 300   | 9 1/3:1  | 1.3   | 2.2       | -  | 2.6       | -  | 3.3       | -  | 4.1       | -  | -         |
| 338   | 8 1/3:1  | 1.2   | 2         | -  | 2.4       | -  | 3         | -  | 3.8       | -  | -         |
| 386   | 7 1/4:1  | 1.1   | 1.8       | -  | 2.2       | -  | 2.8       | -  | 3.4       | -  | -         |
| 456   | 6 1/6:1  | 0.9   | 1.5       | -  | 1.8       | -  | 2.3       | -  | 2.8       | -  | -         |
| 545   | 5 1/8:1  | 0.8   | 1.3       | -  | 1.6       | -  | 2         | -  | 2.5       | -  | -         |
| 680   | 4 1/8:1  | 0.7   | 1.2       | -  | 1.4       | -  | 1.8       | -  | 2.2       | -  | -         |

| Gearbox Specification<br>Motor Speed<br>900 r.p.m. |          | SD 8 M – 38 M<br>1 Phase<br>Motor Rating<br>10 watts |           | SD 8 M – 38 M<br>3 Phase<br>Motor Rating<br>15 watts |        | SD 13 M – 18 M<br>1 Phase<br>Motor Rating<br>38 watts |        | SD 13 M – 18 M<br>3 Phase<br>Motor Rating<br>60 watts |        |
|--|----------|--|-----------|--|--------|---|--------|---|--------|
| FINAL R.P.M.                                       | RATIO    | OUTPUT TORQUE (Nm)                                   |           |  |        |   |        |   |        |
|  |          | COMPOSITE  | COMPOSITE | COMPOSITE  | BRONZE | COMPOSITE   | BRONZE | COMPOSITE   | BRONZE |
| 12   | 72:1     | 2.7  | 4         | 5.1  | 7.3    | 5.1   | 7.3    | 5.1   | 7.3    |
| 14   | 66:1     | 2.5  | 3.8       | 5.1  | 7.3    | 5.1   | 7.3    | 5.1   | 7.3    |
| 15   | 60:1     | 2.4  | 3.6       | 5.9  | 7.9    | 5.9   | 7.9    | 5.9   | 7.9    |
| 17   | 54:1     | 2.2  | 3.3       | 5.9  | 7.9    | 5.9   | 7.9    | 5.9   | 7.9    |
| 18   | 48:1     | 2.1  | 3.2       | 5.9  | 7.9    | 5.9   | 7.9    | 5.9   | 7.9    |
| 20   | 44:1     | 2  | 3         | 5.9  | 7.9    | 5.9   | 7.9    | 5.9   | 7.9    |
| 22   | 40:1     | 1.8  | 2.7       | 6.8  | 7.9    | 7.9   | 10.8   | 7.9   | 10.8   |
| 25   | 36:1     | 1.7  | 2.6       | 6.5  | -      | 7.9   | 10.2   | 7.9   | 10.2   |
| 27   | 33:1     | 1.6  | 2.4       | 6.1  | -      | 7.9   | 9.6    | 7.9   | 9.6    |
| 30   | 30:1     | 1.5  | 2.2       | 5.7  | -      | 7.9   | 9      | 7.9   | 9      |
| 33   | 27:1     | 1.4  | 2.1       | 5.3  | -      | 7.9   | 8.4    | 7.9   | 8.4    |
| 36   | 25:1     | 1.3  | 1.9       | 4.9  | -      | 7.8   | -      | 7.8   | -      |
| 40   | 22 1/2:1 | 1.2  | 1.8       | 4.6  | -      | 7.2   | -      | 7.2   | -      |
| 44   | 20 1/2:1 | 1.1  | 1.7       | 4.2  | -      | 6.6   | -      | 6.6   | -      |
| 48   | 18 1/2:1 | 1  | 1.5       | 3.8  | -      | 6   | -      | 6   | -      |
| 54   | 16 1/2:1 | 1  | 1.5       | 3.8  | -      | 6   | -      | 6   | -      |
| 58   | 15 1/2:1 | 0.9  | 1.35      | 3.42   | -      | 5.4   | -      | 5.4   | -      |
| 62   | 14 1/2:1 | 0.88   | 1.32      | 3.34   | -      | 5.3   | -      | 5.3   | -      |
| 67   | 13 1/3:1 | 0.85   | 1.27      | 3.23   | -      | 5.1   | -      | 5.1   | -      |
| 73   | 12 1/3:1 | 0.80   | 1.20      | 3.04   | -      | 4.8   | -      | 4.8   | -      |
| 79   | 11 1/3:1 | 0.78   | 1.17      | 2.96   | -      | 4.68  | -      | 4.68  | -      |
| 87   | 10 1/3:1 | 0.74   | 1.11      | 2.81   | -      | 4.44  | -      | 4.44  | -      |
| 96   | 9 1/3:1  | 0.70   | 1         | 2.66   | -      | 4.20  | -      | 4.20  | -      |
| 108  | 8 1/3:1  | 0.64   | 0.96      | 2.43   | -      | 3.84  | -      | 3.84  | -      |
| 124  | 7 1/4:1  | 0.58   | 0.87      | 2.2  | -      | 3.48  | -      | 3.48  | -      |
| 146  | 6 1/6:1  | 0.50   | 0.75      | 1.9  | -      | 3   | -      | 3   | -      |
| 174  | 5 1/6:1  | 0.43   | 0.65      | 1.63   | -      | 2.58  | -      | 2.58  | -      |
| 218  | 4 1/8:1  | 0.36   | 0.54      | 1.37   | -      | 2.16  | -      | 2.16  | -      |