

# Cable Chart Selection

## 220 Volt Cable Selection

| Cable Size mm <sup>2</sup> |      |     |     |     |     |       |       |       |       |       |
|----------------------------|------|-----|-----|-----|-----|-------|-------|-------|-------|-------|
| H.P                        | K.W  | 1.5 | 2.5 | 4   | 6   | 10    | 16    | 25    | 35    | 50    |
| 0.33                       | 0.25 | 170 | 280 | 450 | 670 | 1 130 | 1 750 | 2 640 | 3 590 | 4 940 |
| 0.5                        | 0.37 | 120 | 200 | 320 | 480 | 810   | 1 260 | 1 900 | 2 590 | 3 580 |
| 0.75                       | 0.55 | 80  | 130 | 220 | 320 | 550   | 850   | 1 290 | 1 760 | 2 430 |
| 1                          | 0.75 | 60  | 100 | 170 | 250 | 430   | 670   | 1 010 | 1 380 | 1 910 |
| 1.5                        | 1.1  | 40  | 70  | 120 | 180 | 300   | 470   | 710   | 960   | 1 360 |
| 2                          | 1.5  | 30  | 60  | 90  | 130 | 230   | 360   | 550   | 760   | 1 060 |
| 3                          | 2.2  | 20  | 40  | 60  | 90  | 150   | 230   | 350   | 490   | 680   |

## 380 Volt Cable Selection

| H.P  | K.W  | 1.5 | 2.5   | 4     | 6     | 10    | 16    | 25    | 35    | 50    |
|------|------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.5  | 0.37 | 810 | 1 350 | 2 160 | 3 240 | 5 500 | 8 530 | -     | -     | -     |
| 0.75 | 0.55 | 550 | 920   | 1 480 | 2 230 | 3 780 | 5 860 | 8 890 | -     | -     |
| 1    | 0.75 | 410 | 680   | 1 090 | 1 640 | 2 780 | 4 330 | 6 570 | 9 010 | -     |
| 1.5  | 1.1  | 300 | 500   | 810   | 1 210 | 2 060 | 3 200 | 4 850 | 6 640 | 9 220 |
| 2    | 1.5  | 220 | 370   | 590   | 880   | 1 500 | 2 340 | 3 560 | 4 890 | 6 380 |
| 3    | 2.2  | 150 | 250   | 400   | 600   | 1 030 | 1 600 | 2 440 | 3 350 | 4 680 |
| 5    | 3.7  | 90  | 150   | 240   | 370   | 630   | 980   | 1 490 | 2 050 | 2 870 |
| 7.5  | 5.5  | 60  | 110   | 170   | 260   | 440   | 690   | 1 060 | 1 450 | 2 030 |
| 10   | 7.5  | 50  | 80    | 130   | 200   | 340   | 530   | 810   | 1 110 | 1 560 |
| 15   | 11   | -   | 50    | 90    | 130   | 230   | 360   | 550   | 750   | 1 060 |
| 20   | 15   | -   | -     | 70    | 100   | 170   | 270   | 410   | 570   | 800   |
| 25   | 18.5 | -   | -     | -     | 80    | 140   | 210   | 330   | 450   | 630   |
| 30   | 22   | -   | -     | -     | 70    | 120   | 180   | 280   | 380   | 540   |
| 40   | 30   | -   | -     | -     | -     | 90    | 130   | 210   | 280   | 400   |
| 50   | 37   | -   | -     | -     | -     | -     | 110   | 170   | 230   | 320   |

In some installations it may be convenient to use two different cable sizes. This is acceptable if the two cable sections in percent of the maximum allowable, total less than 100%.

**Example:** 1.5kW (2HP) 220v pump is to be installed as a replacement in an existing borehole which already has 82 meters of buried 6mm<sup>2</sup> supply cable. What cable size is required for 60 meters in the borehole? From the above table, 6mm<sup>2</sup> is useable with a 1.5Kw (2HP) motor to 130 metres. The existing buried cable uses 82m + 130 = 63% of the allowable total. The balance of 37% is left for the borehole. Thus 130m x 37% = 48m - not sufficient for the borehole. Referring to the 10mm<sup>2</sup> cable size on the table, 230m x 37% = 85m. Thus 10mm<sup>2</sup> submersible pump cable must be used in the borehole.

