

*Should the load be highly resistive and single phase, or highly reactive and balanced multi-phase, it may be found that there is insufficient neutralisation to obtain a minimum reading when operating upon supplies less than 100V. Such a condition could occur if practically full scale deflection were produced on the range in use. If this situation is encountered, switch to the next higher current range (using  $\div 2$  button if desired to increase the deflection), since less neutralisation will then be necessary. The voltage should now be adequate to deal with the altered conditions, provided that the Voltage Selector Switch on the Unit is set to its 100-160 volt position.*

#### **Power Factor Calculator**

In the case of a single phase test, the point on the swinging arm corresponding to the maximum current should be superimposed over the squared scale at a point corresponding to the minimum current single phase on the horizontal scale. The power factor is indicated on the scale at the extremity of the swinging arm.

For balanced 2 or 3 phase the maximum current reading on the arm should lie over the point corresponding to the minimum current on the vertical scale.

#### **Note**

If the main purpose of the test is to determine the power factor, the relative values only of the two readings is required irrespective of their actual magnitude. It will be found helpful in such cases to use the "Q" knob on the meter to bring the initial reading to a convenient whole number (100 if possible). Once the "Q" knob has been set during this initial operation, it should be left without alteration throughout the remainder of the test, since this primary adjustment will alter the second reading in the same ratio as the first, and thus no error will be introduced. An increased pointer deflection would, of course, make for higher accuracy of reading. Return the "Q" knob to its normal position after use. As a matter of interest, in the case of balanced two and three phase loads, the Power Factor is the minimum current reading divided by the maximum current reading.

#### **Wattage Calculator**

**Single phase:** The voltage across the load should first be measured and the power factor then determined as described above. This power factor value on the circular calculator should be set to the point corresponding to the measured voltage. The power in watts or kilowatts may then be read opposite the point on the current scale which corresponds to the *maximum* current reading.

The calculator has only been marked from 10 mA. and the Power