

## Mechanical Equivalent of Heat



**Purpose:** To obtain an approximate value for the mechanical equivalent of heat

**Location:** room 136, shelf P2

This clever setup uses the fact that the friction of the rope wrapped around the cylinder several times provides enough force to hold essentially all the tension required to hold the bucket with a 2 kg mass in it. The torque is then equal to the radius of the cylinder times the weight of the hanging bucket and mass. When multiplied by  $2\pi$  radians per each revolution this gives the work done overcoming friction, which is converted to heat. Follow the Operating Instructions on the sheet and be prepared to do a lot of cranking!