



Figure 1. Schematic diagram of an erosion test rig

RESULT AND DISCUSSION

Steady state erosion (Effect of impingement angle of erosion rate)

The variations of steady-state erosion rates of bamboo-epoxy and glass-epoxy composites tested with red mud particulates with the angle of impingement are presented in Fig. 2. The erosion behavior of materials is broadly classified in the literature as ductile and brittle depending on the variation of erosion rate with impact angle. Ductile behavior is characterized by maximum erosion at low impact angles in the range of $10\text{--}30^\circ$. On the other hand, if maximum erosion occurs at $\alpha = 90^\circ$, then the behavior is brittle. However, reinforced composites have been found to exhibit semi-ductile behavior with maximum erosion rate at intermediate angles typically in the range of $45\text{--}60^\circ$ [1]. In the present study, the variation of erosion wear rate of the composites with impingement angle is studied by conducting experiments under specified operating conditions. The result shows the peak erosion taking place at an impingement angle of 60° for the unfilled as well as the red mud (RM) and alumina filled bamboo-epoxy composites, whereas composite samples filled with copper slag,