Heat and Mass Transfer Instrumentation for Textiles and Performance Fabrics: CIFFI Corporate Collaboration

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Heat and Mass Transfer Instrumentation for PCM's

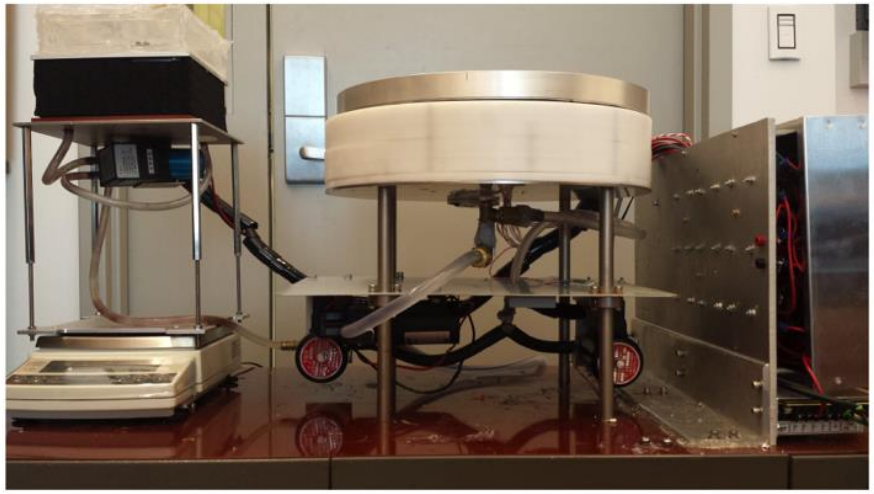
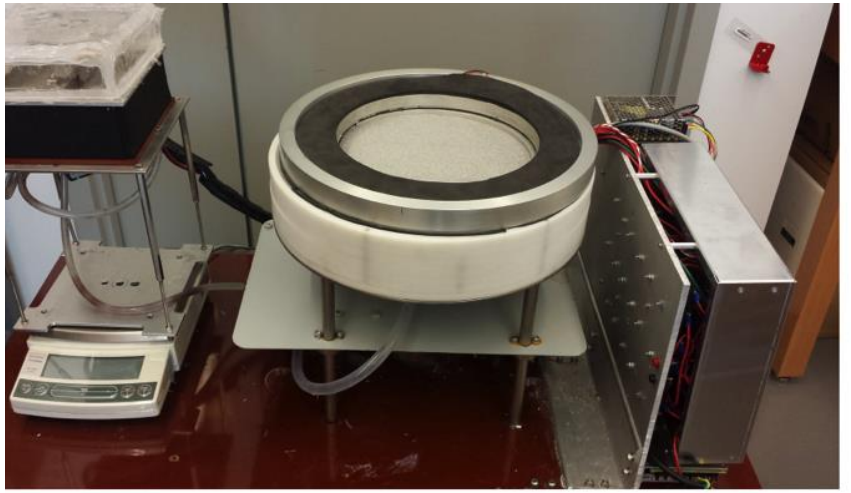


Figure 2: The electronic balance is set to the left with the secured reservoir above and a circulating pump. The SGH chamber is centralized. Two actuating valves sit below. The electronics and DAQ are housed on the right.



ure 3: A porous sintered disk (silver) sits at the interface of the environment the central chamber.

- Layers of phase change material (PCM) and textiles are loaded into the chamber
- Water is thermally regulated and passes through valves to evaporate through the fabric
- Real-time DAQ systems/PID monitor and analyze data

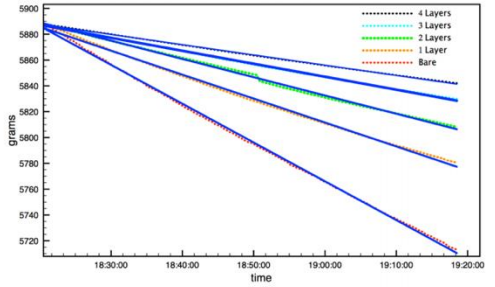


Figure 4: The amount of water lost in 1 *hour* for each layer.

Heat & Mass Transfer GUI + System

Figure 1: This image shows the GUI as well as the insulating shell of the SGH which helps to achieve more favorable steady-state conditions and helps to account for power lost, i.e. energy not directly accounted for by evaporation.