

37. Custom Peltier Environmental Chamber and Visualization System

- Custom built (Rame-Hart)
- Specification:
 - Peltier stage temperature range: -20°C and $+80^{\circ}\text{C}$
 - Environmental chamber humidity range: 5% ~ 95% with a 0.1% resolution (by humidity controller in ante chamber)
 - An ante chamber will be included for formation and regulation of humidity treated air flow which will cycle through the chamber.
 - Environmental chamber have (3) quartz windows: one on the top (for top view); one in the front; and one in the rear.
 - Environmental chamber will be easily accessible using quick-release retention thumbscrews.
- Manual microscope
- Objective : Long working distance 5X, 10X, 20X (Mitutoyo , long working distance)
- CMOS camera : acA1440-220um - Basler ace (up to 220 fps)
- Custom built environmental chamber is mainly used to characterize coupon scale sample in a humidity and temperature-controlled chamber.

