The model M395 represents an unusual and highly innovative design approach for the design of a truly universal blackbody source, which satisfies the most demanding requirements of modern radiometric calibration needs. This is indeed a milestone step, taken by Mikron engineers, to satisfy seemingly two irreconcilable design criteria up to now. An ability to reach an extremely high temperature of 2300°C and also satisfy the need for near ambient temperature calibration. Due to a unique design of the cavity, higher emissivity factor near to an ideal unity is achieved. This feature alone allows the calibration of infrared instrument with wavelength from 500nm to 20.0µm with much higher precision than previously possible. The flatness of spectral emissivity eliminates the constant awareness of potential errors associated with longer wavelength infrared instruments under calibration. Highly uniform emitter temperature further insures that infrared instruments with different field of view are equally accurate during calibration. Due to incredible speed of 400°C per minute slew rate, model M395 has the potential to replace a number of existing blackbody sources within an industrial facility or research laboratory. Hundreds of calibration points can be read and stored from simultaneous reading of blackbody source temperature via controller digital communication output and instrument output under test using Mikron calibration custom software. This method is achieved due to the proprietary design of the cavity emitters and feedback sensors with virtually no time lag. Using this feature an extraordinary look-up table for calibration of the instrument under test can be obtained automatically without the need for stabilization time.

**SPECIFICATIONS**

**Temperature Range:** 30 to 2300°C  
**Accuracy:** ±0.25% of reading ±1°C  
**Cavity:** Closed end graphite tube 292mm (11.5") long with approximately 127mm (5") heated length  
**Source Exit Diameter:** 25mm (1.00")  
**Emissivity:** 0.97 ±.003. (1.0 if used with M395LAM1.EXE program supplied)  
*Effective emissivity as calibrated*:  
0.97@ 8-14µm from 30 to 300°C  
1.0 @ 1.43µm from 231-800°C  
1.0 @ 0.65µm from 800-2300°C  
**Cooling:** Water cooled. Standard (garden) hose connection on rear. 3 lpm (1gpm)  
**Cooling Inlet Pressure:** 90 PSI (621 kPa) maximum.  
**Purge Gas:** Argon High Purity (99.99 % pure)  
**Purge Gas Inlet Pressure:** 25 PSI (172 kPa) maximum.  
**Heating Element Type:** Graphite tube with argon gas purge. 226 l/h (8cfh).  
**High Temperature Sensor 300-2300°C:** Mikron M668 "Infraducer" or Mikron M680  
**Low Temperature Sensor 30-300°C:** Mikron/Impac MI-N5+  
**Method of control:** Digital PID controller.  
**Remote Set Point:** RS232 serial communication output (standard) [ ] RS-422 (option)  
**Sensor Warm-up Time to stated accuracy:** 2 hours from power-up.  
**Slew Rate (typical):** 6 to 7 minutes from 100 to 2300°C  
**Operating Ambient Temperature:** 0 to 44°C (32 to 110°F)  
**Operating Ambient Humidity:** 0 to 90% RH non-condensing  
**Power Requirements:** [ ] 208 or [ ] 220 or [ ] 240 VAC ±10% [ x ]50 [ ]60Hz 24 kw (specified at time of order)  
**Power Connector:** Customer supplied. Must use plug that complies with IEC-309 at 110 Amps  
**Dimensions:** 171cm H x 56cm W x 82cm D.  
**Weight:** 182 kgs (400 lbs).