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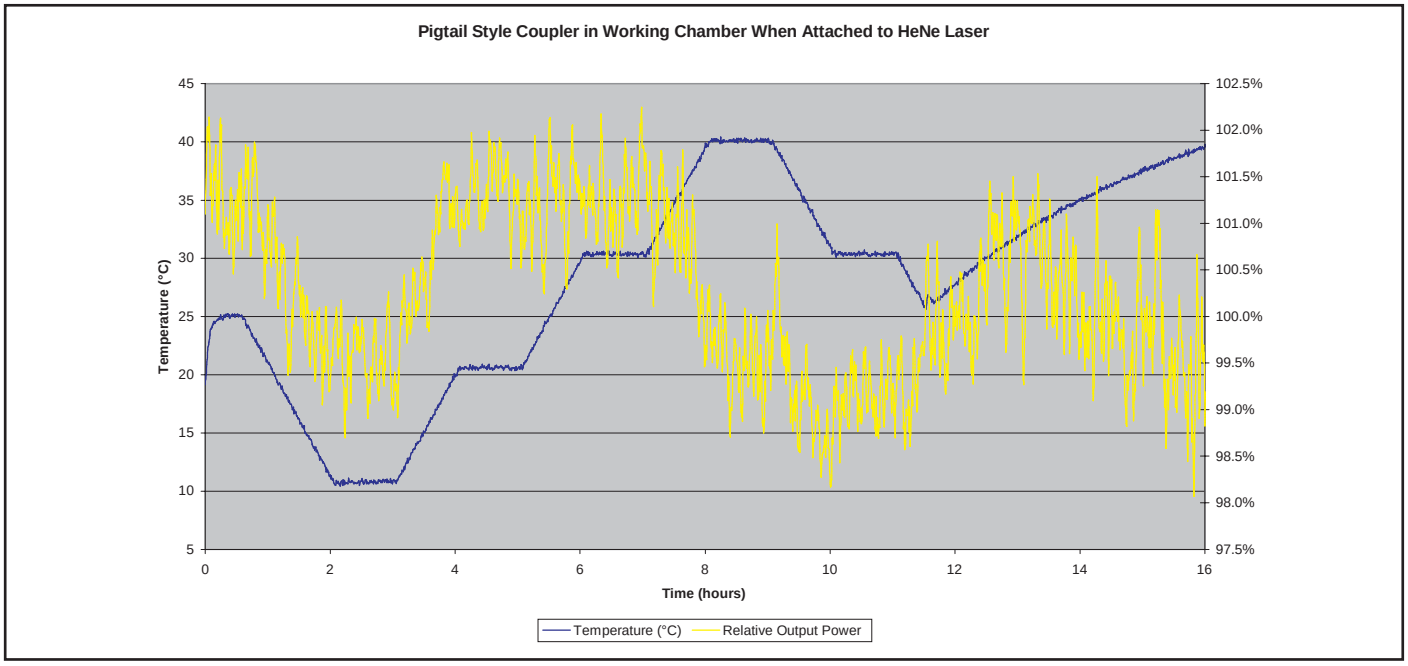
Power Stability of OZ Optics Pigtail Style Laser to Fiber Couplers

The following chart shows the behavior of a typical OZ Optics pigtail style laser to fiber coupler, when attached to a commercial Helium-Neon laser with a 0.8mm diameter output beam, and an output power of 5mW. The optics were aligned and locked for maximum coupling efficiency, which exceeded 70%. Both the laser and the fiber coupler were inside the temperature chamber, while the HeNe laser power supply and the optical power meter were outside the chamber. As indicated on the plot, the laser and coupler were temperature cycled over a temperature range of 10 to 40 degrees C.

The variation in power from the laser to fiber coupler was shown to be ±2.2% over the indicated temperature range. About 1% of this variation can be attributed to random power fluctuations from the laser itself. Other potential sources for variation include the pointing stability of the laser.



It should be noted that the temperature stability for laser to fiber coupler will depend a great deal on the properties of the laser itself. In particular the pointing stability of the laser being used has great impact on the temperature stability experienced. The mechanical stability of the laser housing will also have an effect. Thus this data is provided as a guide only. Actual results will vary with your application.