

**An Automated Micromanipulator for Loading Diamond Anvil Cells at the APS
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After receiving the award letter from COMPRES in March 2015 we held numerous discussions with potential COMPRES users and personnel from Micro Support and Barnett Technical Services (Micro Support's Representative in the US) to finalize configuration of the system. The final quote reflects a state of the art system required for the wide range of experiments being conducted by COMPRES's users at the APS. The main items that were added into the quote are:

- Two high resolution objectives (3X-30X and 5X-50X): to implement newly available capabilities for high resolution 3D imaging with new WinROOF software.
- Diagonal illumination adapter: for imaging with shadow to create depth feeling (very useful with the glove box).
- Polarization device: to work with single crystals.
- Micro tweezers: for moving large samples and very useful working with LVP samples.
- Micro injector: for controllable injection of liquids into the pressure chamber (very useful with the glove box).
- Electric and manual fine pitch rotator: to orient sample on tip of needle to place sample on the diamond surface or into pressure chamber (very useful with the glove box).
- Ruby knives: to gently cut samples with a very sharp edge.
- Extra fine needles and pipettes: easily broken by inexperienced users.
- Extra handles: easy to switch between different tools (very useful with the glove box)

Although these options resulted in a significant increase in the total price, we were able to negotiate a substantial discount (7%, \$8,716). Micro Support has sold similar systems to universities and non-profit research institutions in the past two years. Based on our discussions, we are receiving a larger discount than was received at other institutions that we spoke with and are familiar with (University of Michigan, Arizona State University, Carnegie Institution of Washington, University of Bayreuth).

In May 2015 we initiated the process of placing the order at UIUC. However, due to the significant amount of internal paperwork required for approval of such large orders the PO was not issued in time for the order to be placed before the transition of COMPRES to the University of New Mexico. In August 2015 the official procedure required for issuing the PO from UNM was started and it is in progress now. Current estimate for system delivery and installation is December 10-11, 2015.