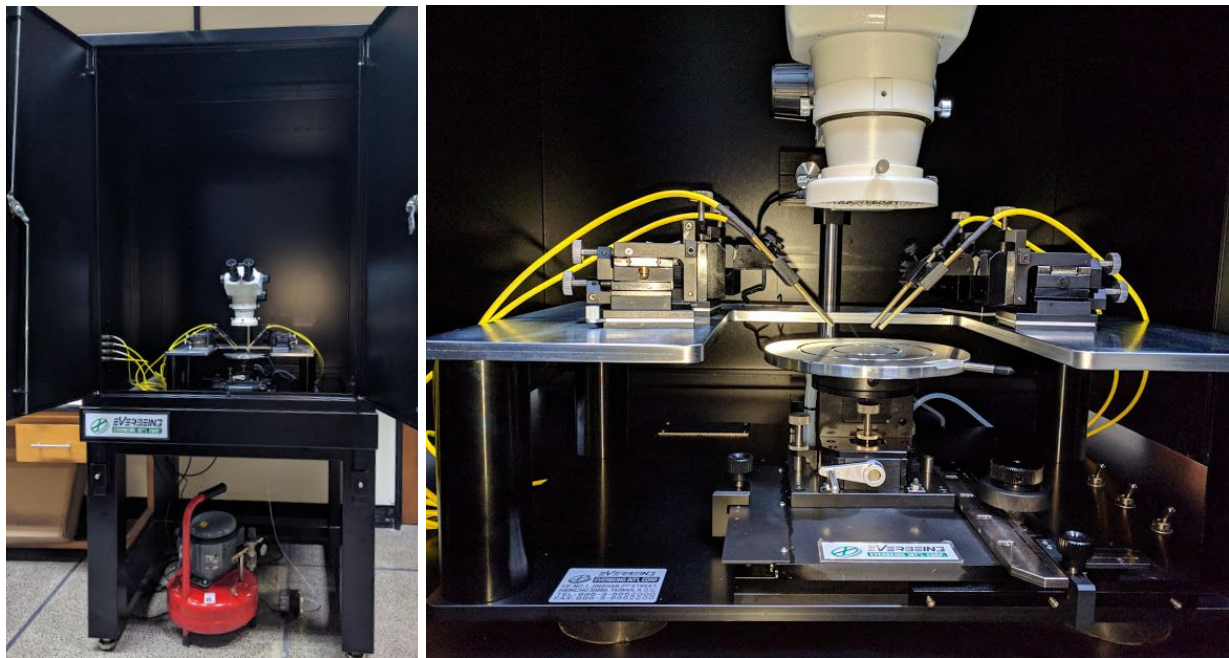


PhysLAB

Installation Manual for Everbeing C-6 Micro Probe Station

Version: PStation 2020-1

Ghulam Sarwar, Dr. Murtaza Saleem, Dr. Ali Akbar, Wardah Mahmood, Dr. Sabieh Anwar



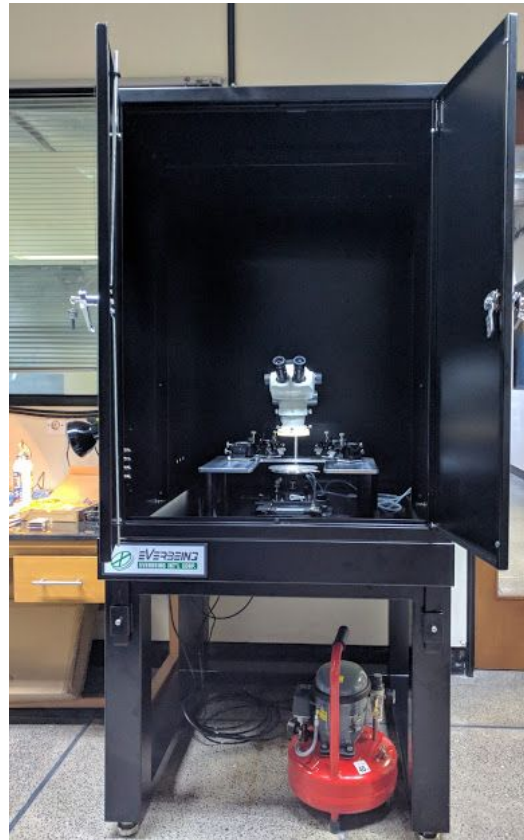
Micro Probe Station setup

Micro Probe Station

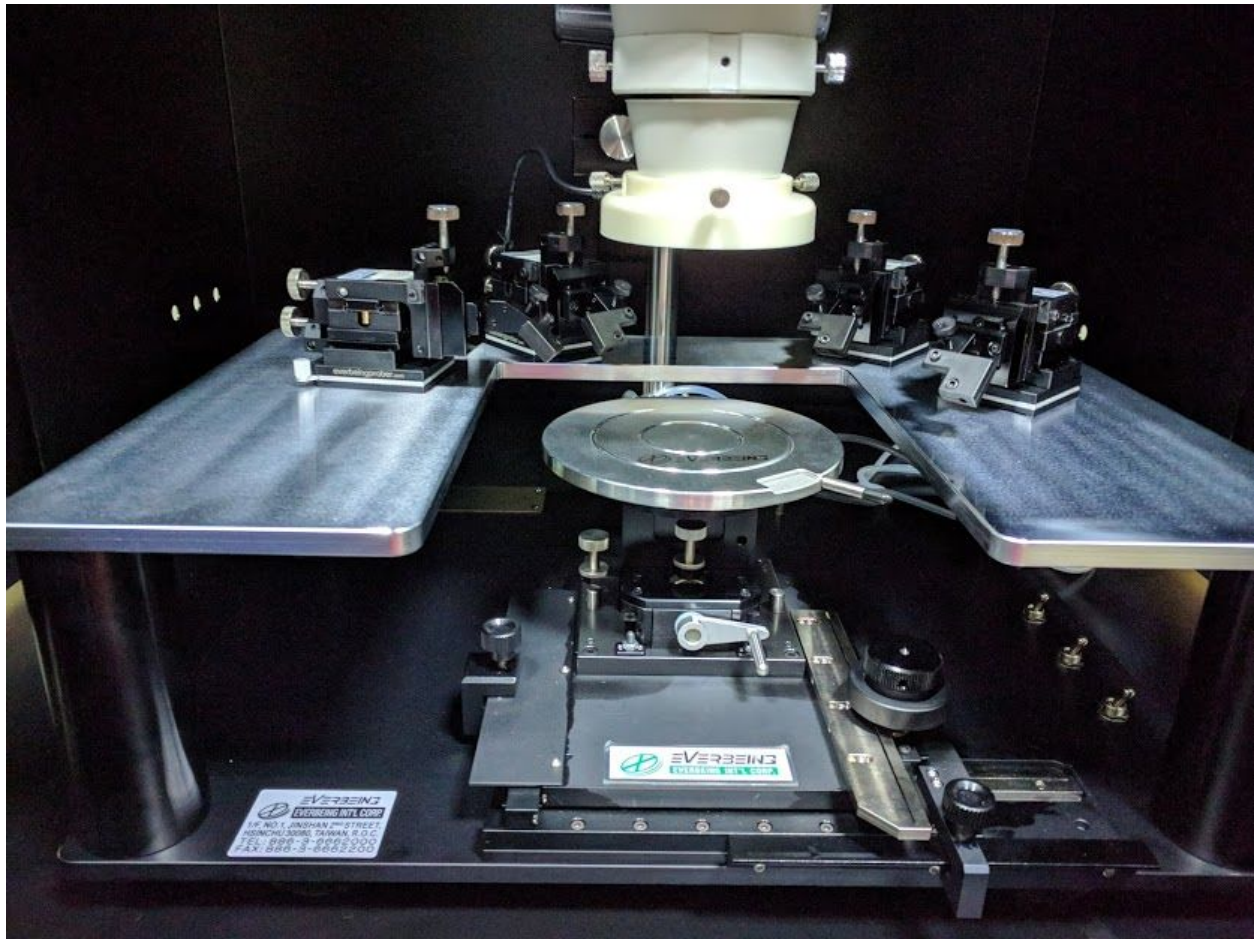
Electrical characterization is a significant part of microelectronic devices. The input and output contacts of a device under test (DUT) may not be visible with the naked eye therefore it becomes difficult to take their electrical measurements. The Everbeing probe station provides the interface facility to make accurate contact with MEMS, wafer, glass etc. Probe Station is a combination of a microscope, micropositioners, chuck, tip holder, tungsten tips, vibration-free table and shielding box. The resolution of Probe Station is 10 micron.

The four EB-050 micropositioners can position the probe linearly and can move in all 3 individual axes with 0.8 μm resolution and a 12 mm Linear Travel Range. The micropositioners are magnetically mounted with magnetic switches. A 6" stainless steel vacuum chuck can hold the three DUTs separately with the corresponding vacuum switches. DUT size ranges from 2mm to 150mm. It can hold a wafer less than 6". The fine resolution of the chuck is 1 μm with a theta of 15 degrees and up/down travel range of 6 mm. Triaxial tip holder connectors are used for the DC measurements. The solid Tungsten tips T20-100 ensures good contact with different materials. It is the most common probing tip having a fine end with an angular taper diameter of 10 μm .

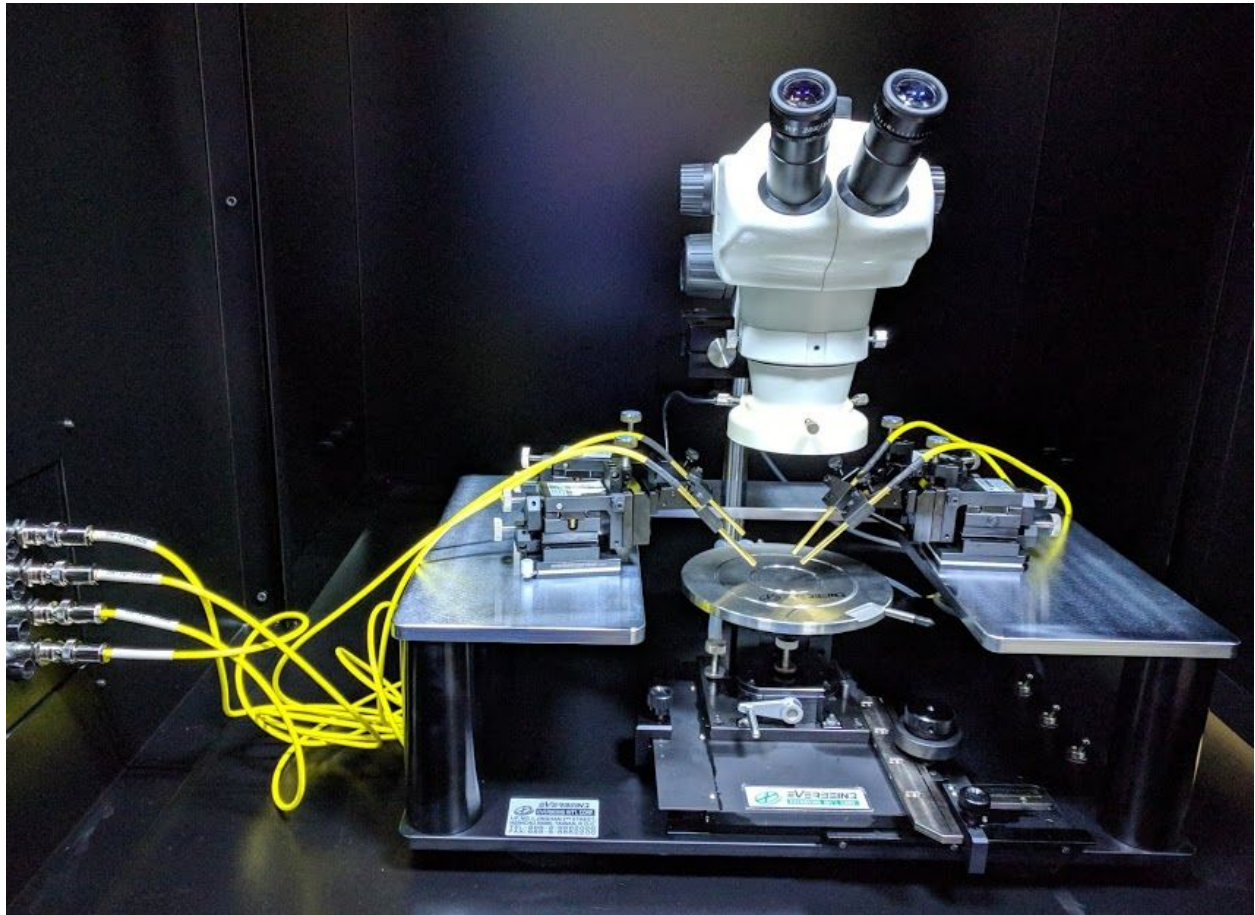
Complete setup of Micro Probe Station within shielding box and on the vibration free table

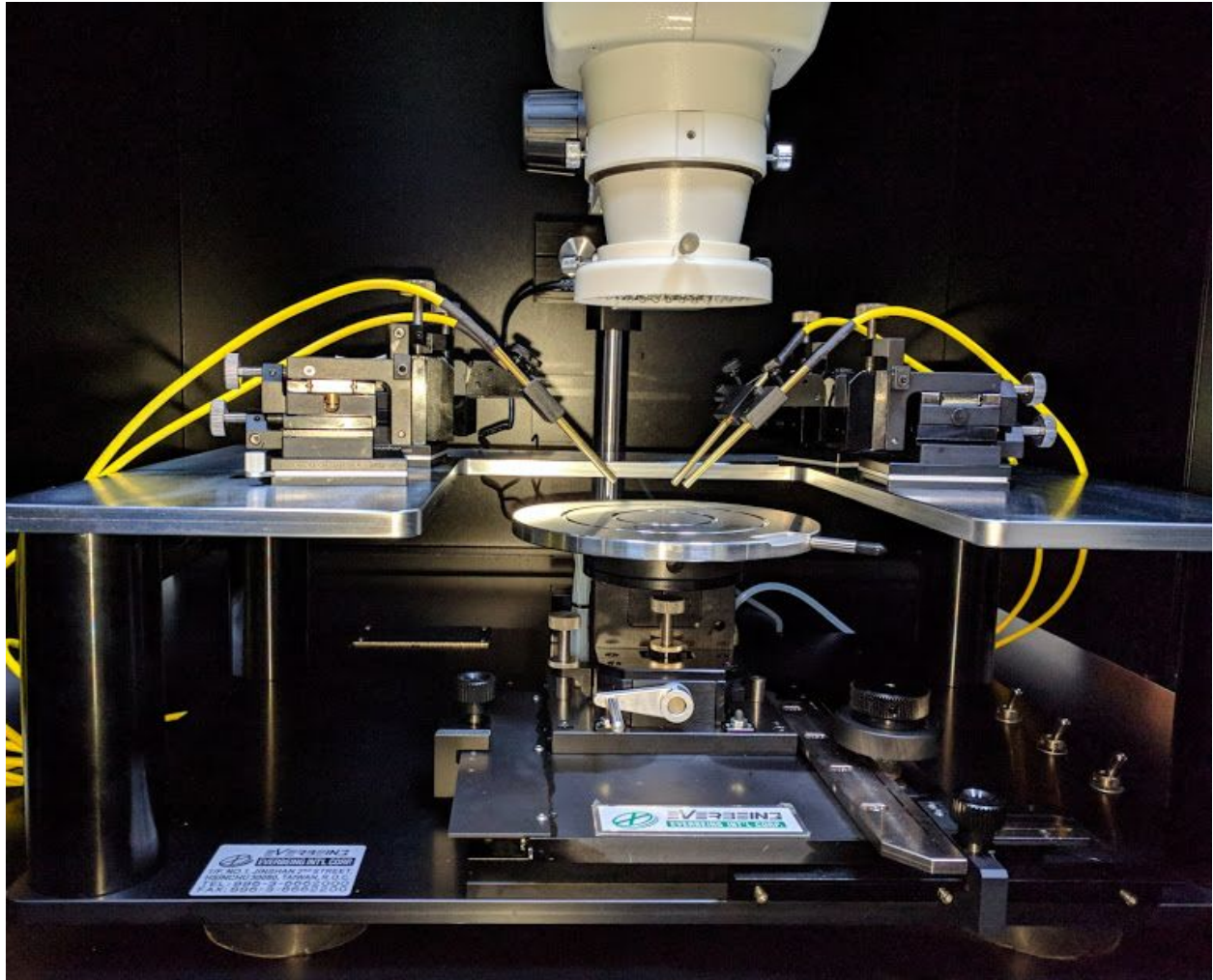


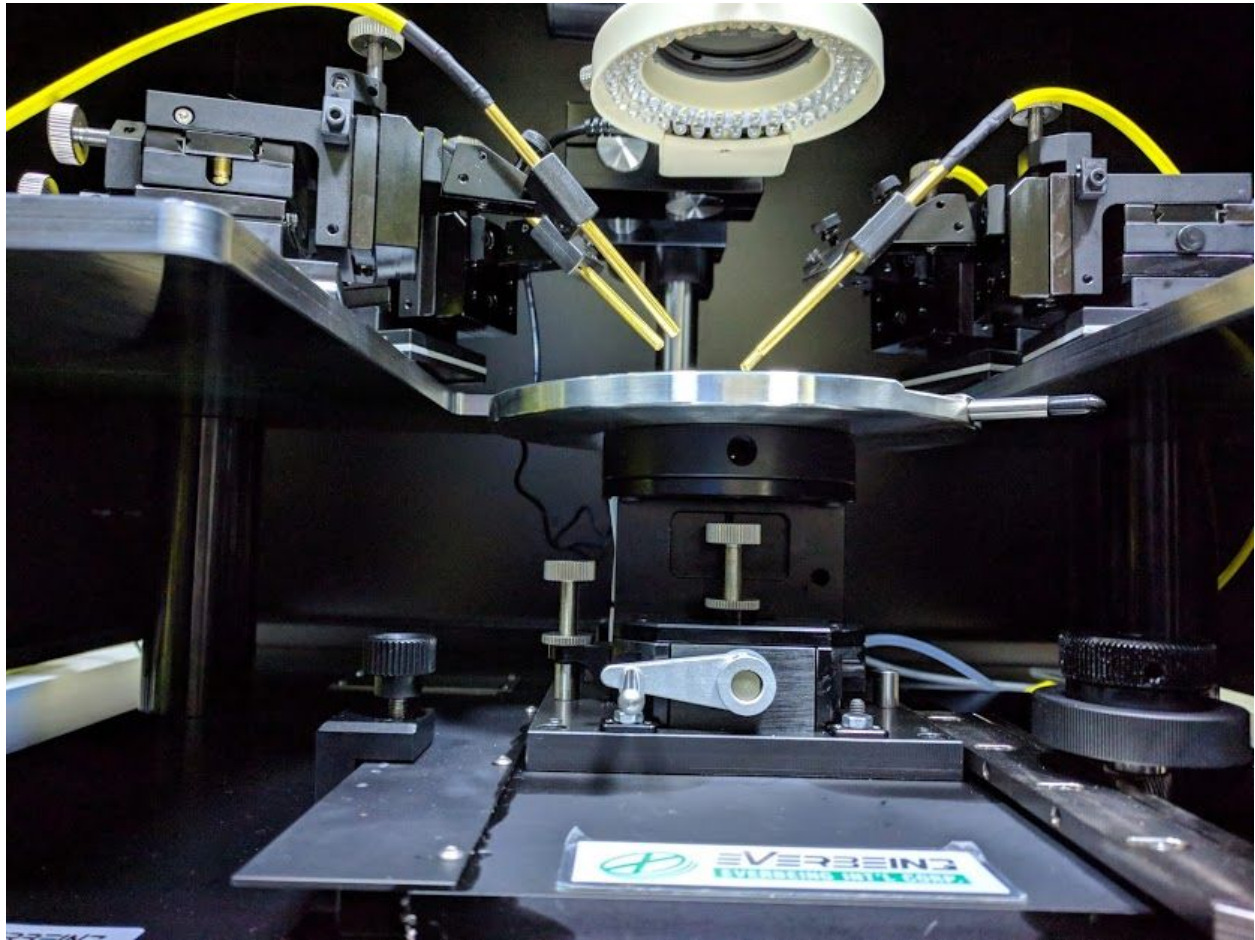
Probe Station with micropositioners, chuck and microscope



Probe Station with micropositioner, chuck, microscope and tip holders







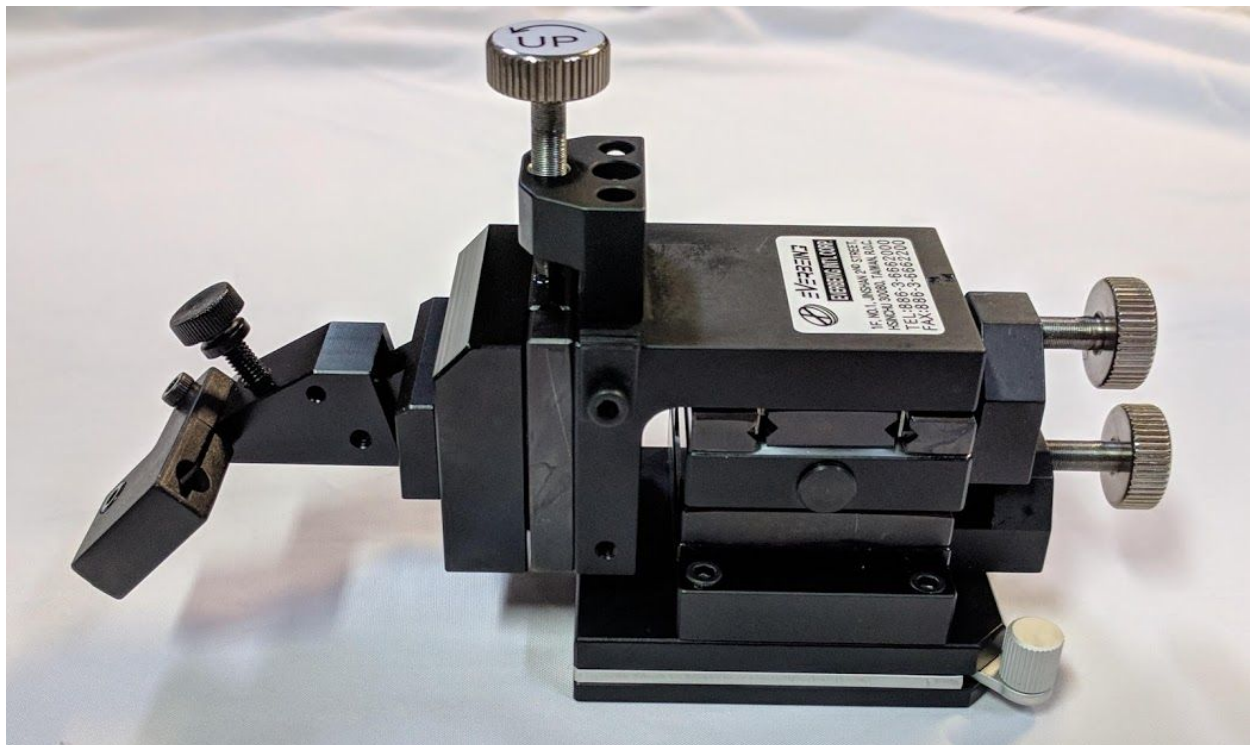
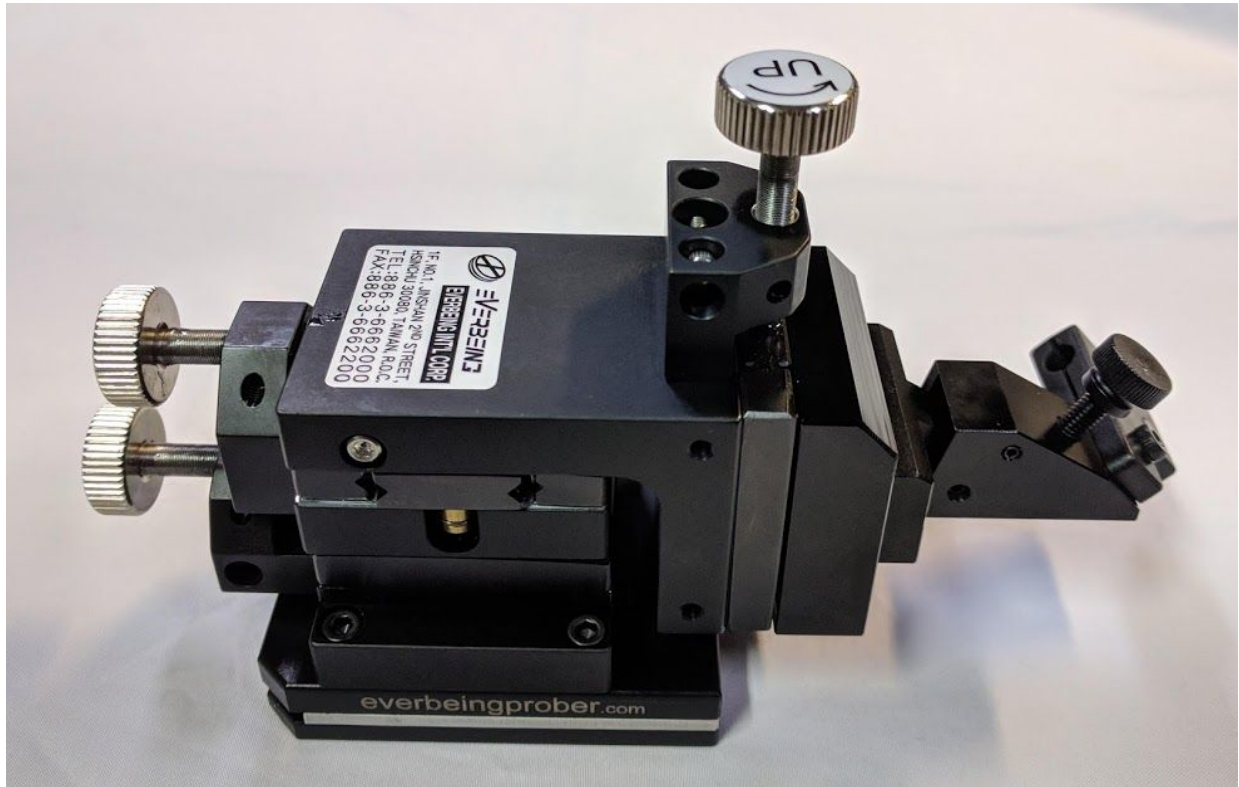
The tip holders

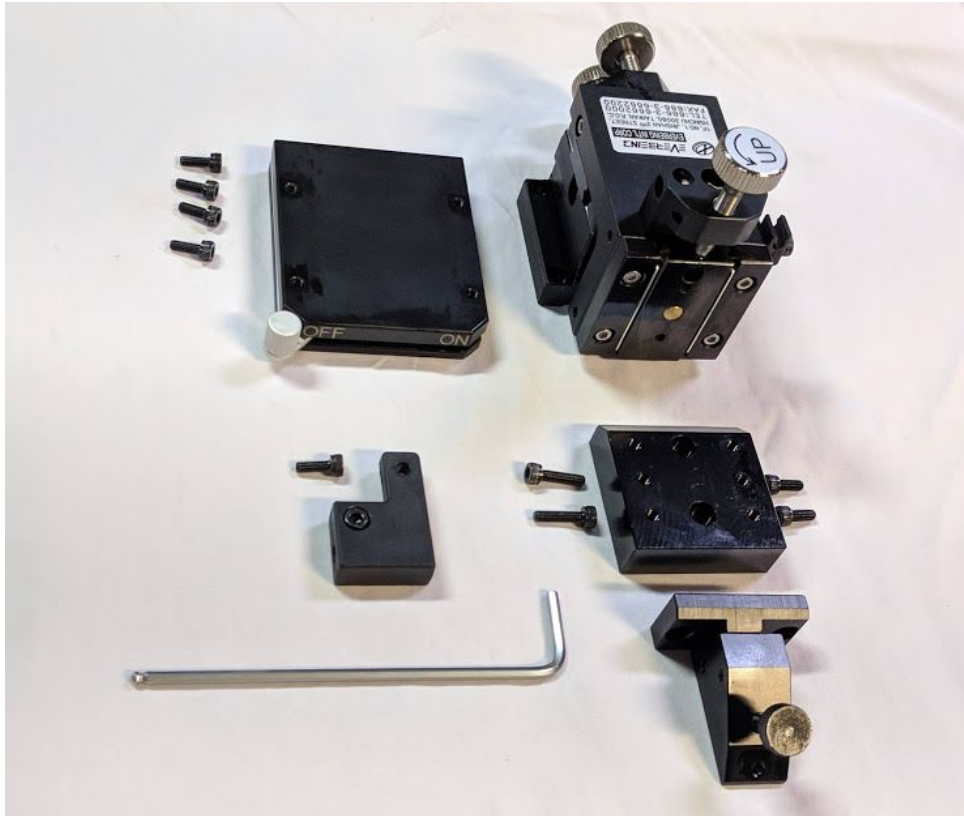


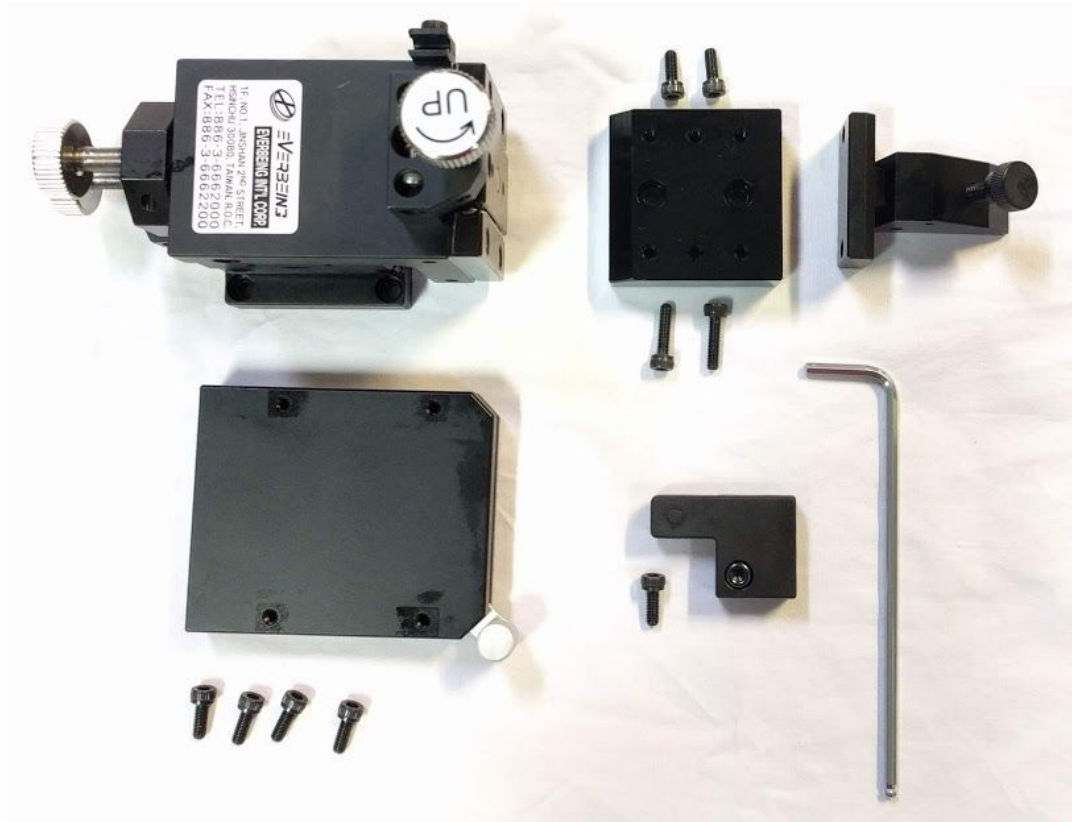
The Tungsten tips



Micropositioner



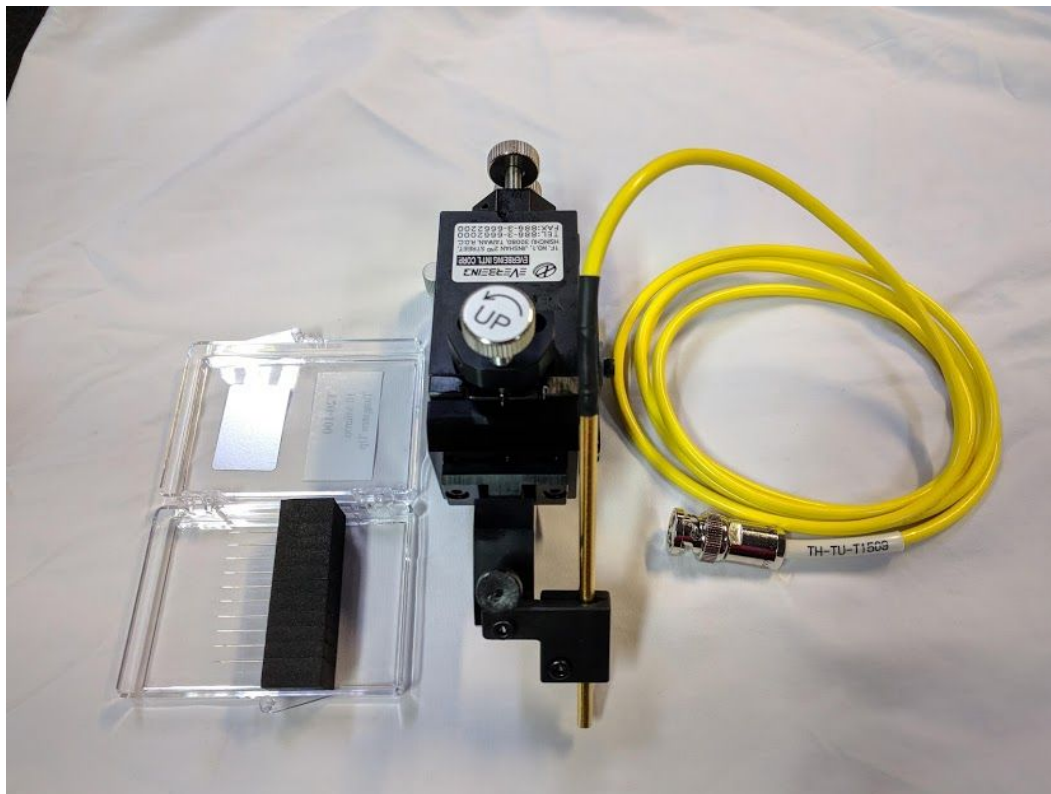
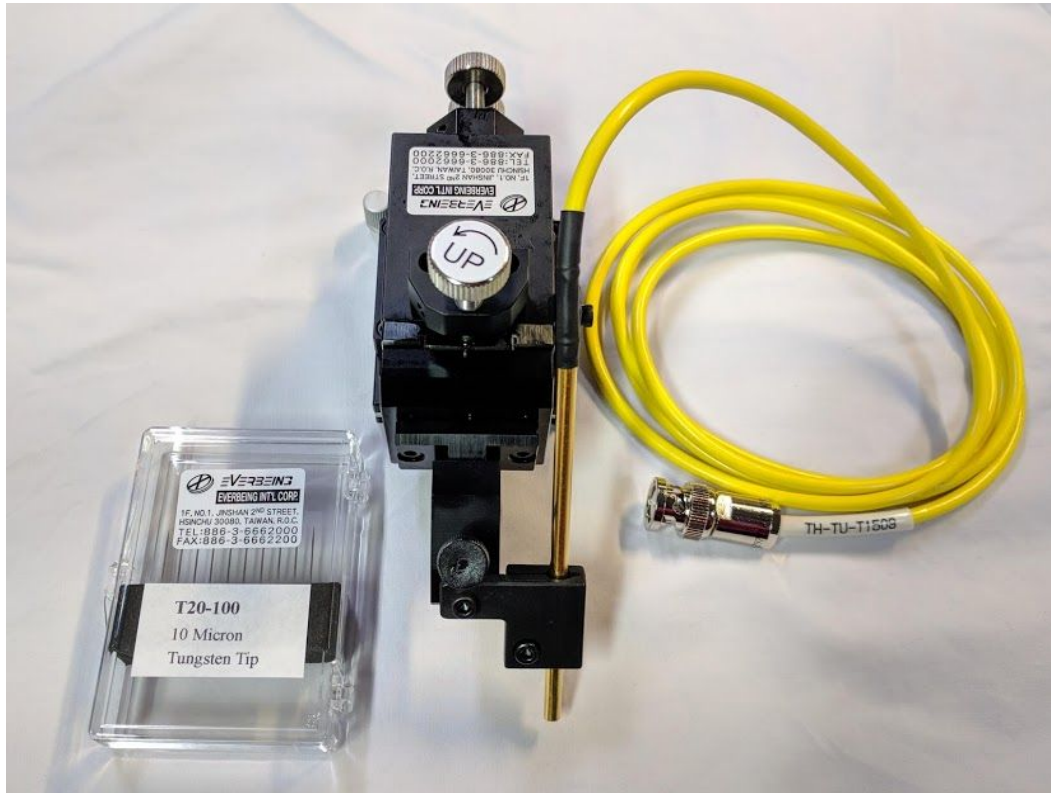


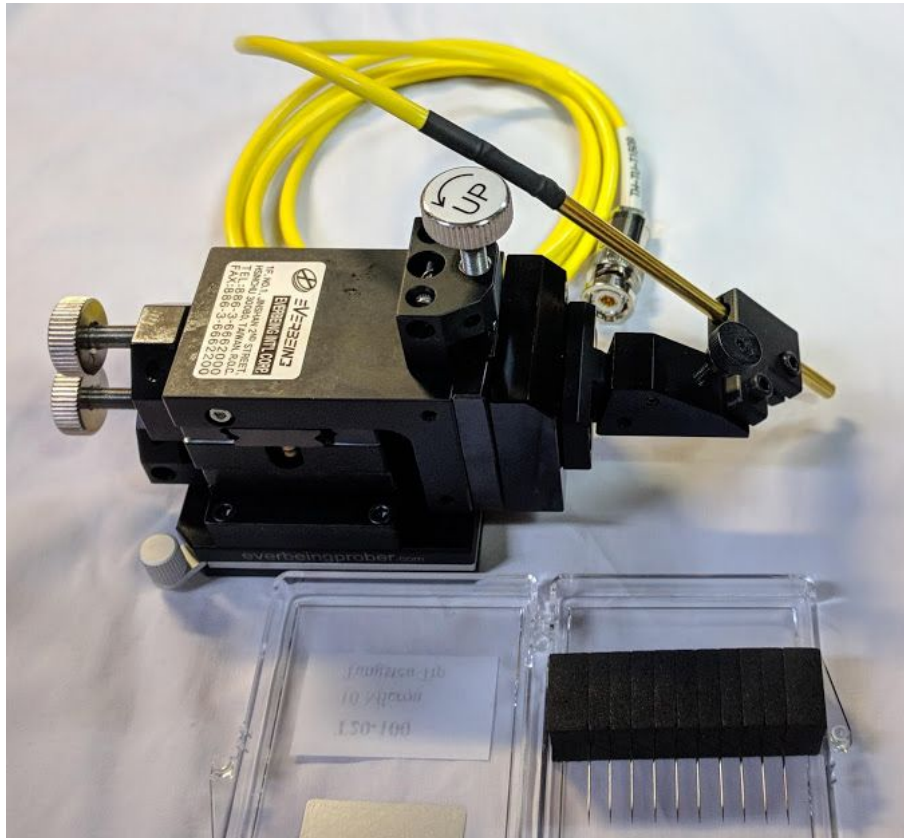


Micropositioner and the tip holder



Micropositioner, the tip holder and the Tungsten tips





Micropositioners



The tip holders



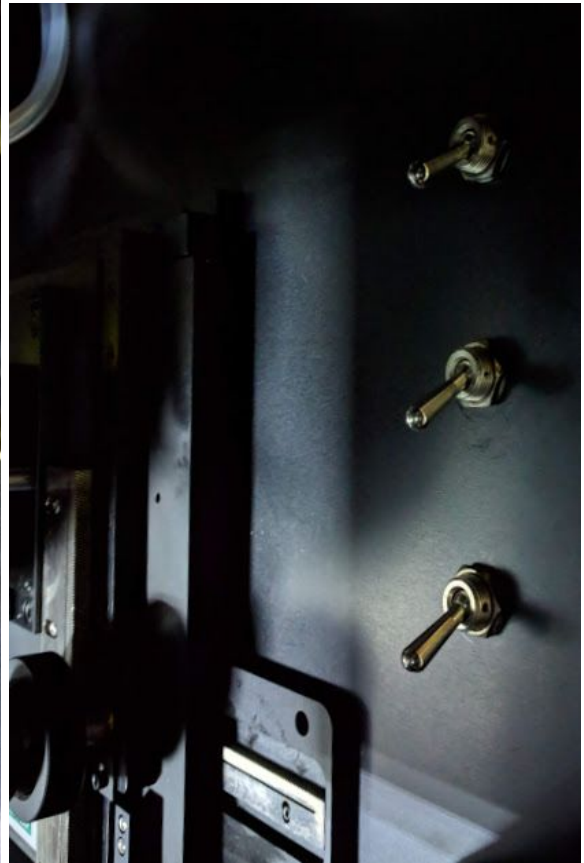
The Tungsten tips



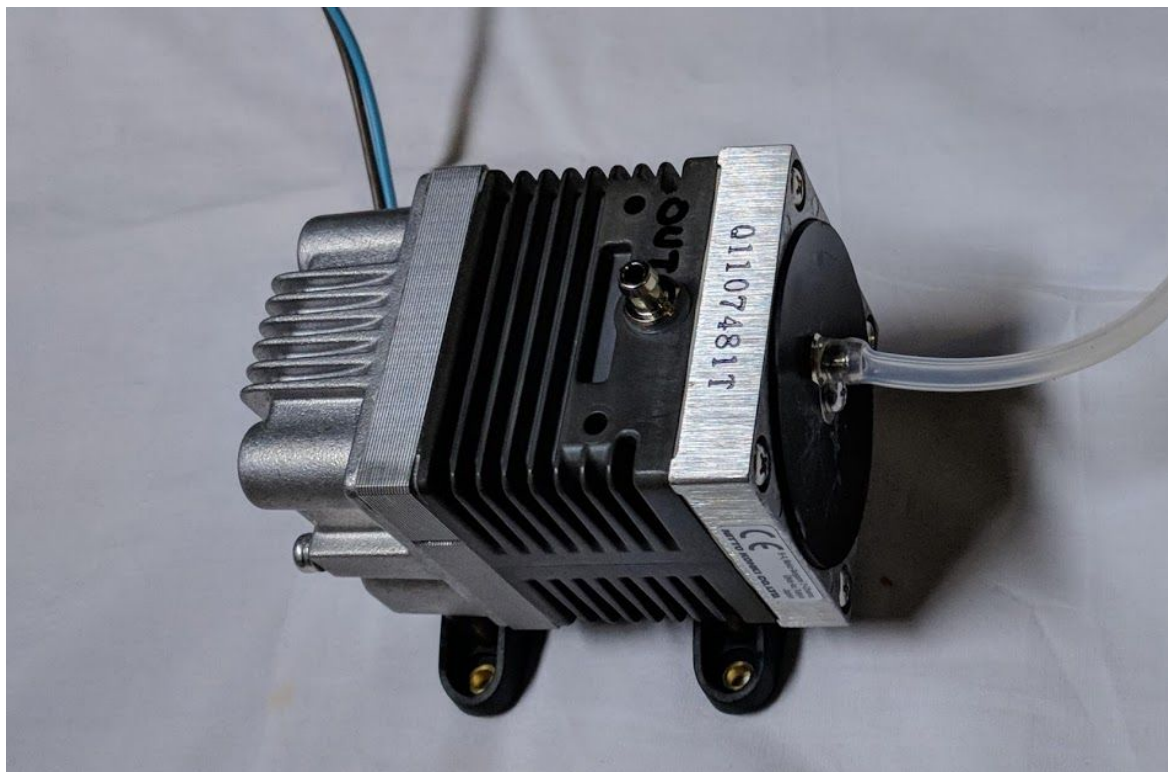
The connectors



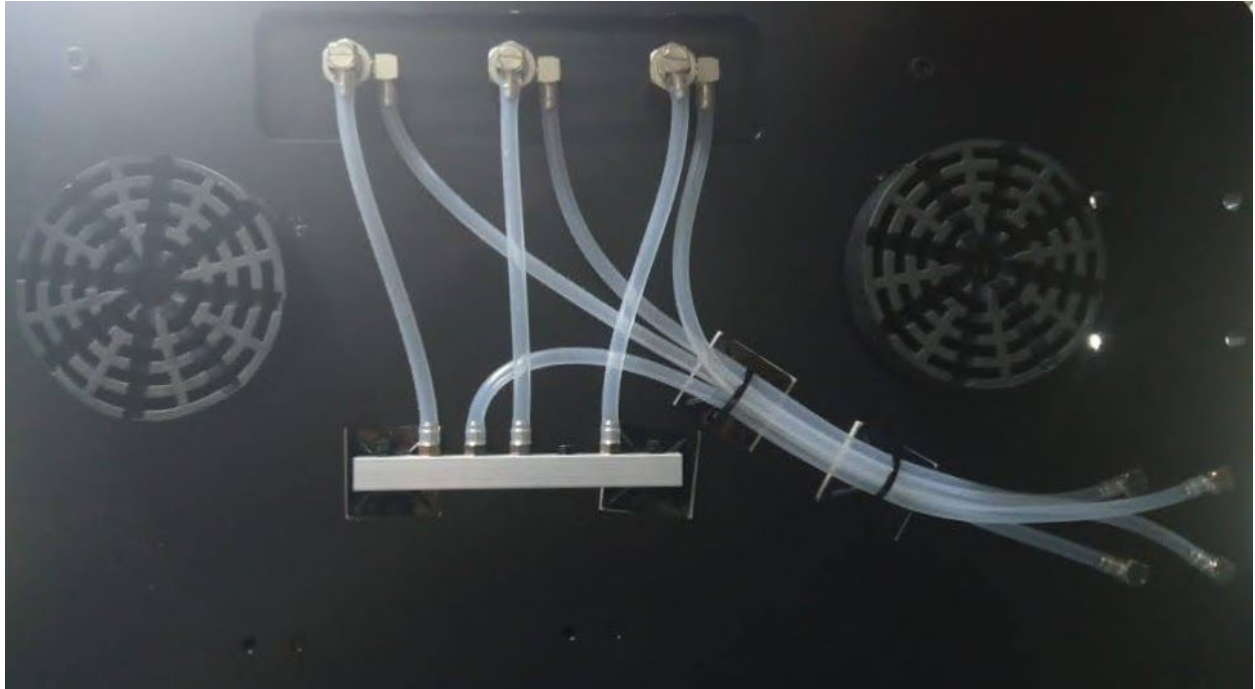
Vacuum Chuck holes to hold the wafer and the corresponding vacuum switches



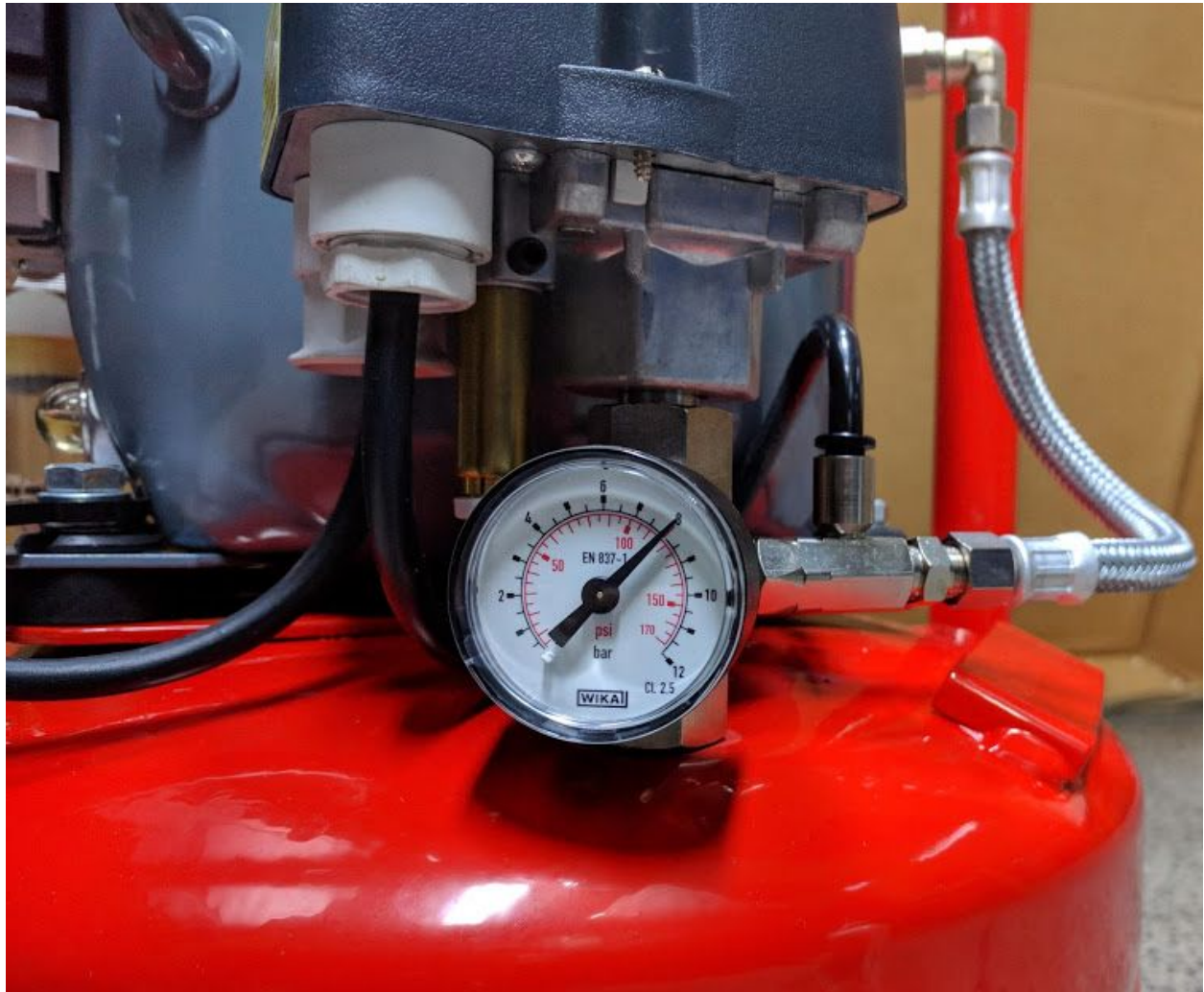
Vacuum pump and the vacuum pipe at its input port



Vacuum pipe wiring at the bottom of the probe station



The compressor for vibration free table and its input pressure reading



The compressor and the output pressure reading



The compressor and oil



Level switches under the vibration free table

