**The transfer system**

The transfer system is dedicated to the production of van der Waals heterostructures. It enables very precise operation: overlapping, joining, separating ultra-thin layers (from one to several monolayers) of layered materials such as graphene, semiconductors, or magnetic materials. The system consists of an optical microscope, a mechanical stage with micromanipulators, a vacuum chuck with heating and cooling capability, and two digital cameras. The optical microscope has very long-distance objectives: 5x, 10x, 20x, 50x, and 40x - a special lens for making very sharp images of 2D crystals during the crucial steps of the transfer. Precise micromanipulators allow moving the sample in the x, y, and z axes, as well as its horizontal rotation and tilting in the x-axis. Built-in software provides the possibility of simple image analysis: setting the scale, contrast, drawing simple shapes, and inserting a measurement scale. In addition, this system has a compact design that allows it to be placed in a glove box and work in oxygen and water-free atmosphere.



