Article published on November 28th 2011 | Business

If you have been exposed to the world of science, life sciences or biotechnology, you would be familiar with the crucial role that a microscope plays. Similarly, a microscope stage is integral to the entire apparatus that goes into assembling a microscope. This stage is where one places or mounts the specimen to be examined. Often, the specimen is contained in a slide that is placed on the stage-it is not too usual for a researcher to place the specimen directly on the stage.

Researchers often place the minutest of objects on the stage - objects that sometimes cannot even be detected by the bare eye. However, one stage might not be suitable for placing different kinds of specimen. This problem can be solved by detachable or replaceable stages. One can also find stages with clips that are used to hold the specimen firmly in place.

Let's take a look at the different kinds of microscope stages to help you decide what suits you best:

Stock stage: This is among the most basic stages available in the market. This does not have many advanced features, but is very useful for basic examinations of different types of specimen. Most adjustments have to be made manually in the case of such a stage.

*Circular microscope stage: Circular Stage - These rotation stages are mostly used for microscopes with polarized light. There are manual and motorized options. Lower profile stages are easier to integrate.

Precision Motorized Stage: These are used for microscope automation and are more advanced than most standard stages that come with microscopes. It is used by researchers engaged in very complex research projects. These stages come with different ancillary equipment that can be used to move an object from one place to another, take measurements of the entire specimen or certain parts of the specimen. Powerful controllers and good software are essential to make the maximum use from these stages. The latest generation XY microscope stages are equipped with ultrasonic ceramic motors for lower profile, higher stability (self locking) and higher speed. Some of these stages even come options such as heating capabilities, important for life-science experiments.

For the highest resolution microscopes, piezo-Z stages and piezo XY-scanning stages are state-of-the art. Piezo stages provide nanometer and sub-nanometer resolution and are important in super-resolution microscopy applications (STORM, PALM, STED) and also for z-stack image acquisition (3-D) imaging). Due to their speed they reduce the image acquisition time significantly over motorized stages. High-precision sensors, flexible motion controllers and compatibility with different software are key points. Some piezo stages are already equipped with clip-on holders for slides (specimen holders) and some are also designed to hold petri-dishes. But before you choose a microscope stage, it is important to do some research online and to find what is right for your application in terms of speed, precision, flexibility and software compatibility to find the system that best meets your requirements.

Article Source:
http://www.articleside.com/business-articles/how-does-one-choose-a-suitable-microscope-stage.htm - Article Side

Nathan Syngrem - About Author:
PI is well known throughout the high-tech world as a leader in design and manufacture of a motion control products, a linear actuators, piezo ceramics and nanoactuators, a microscope stage, linear stage, linear motor and micro robots.

Article Keywords:
microscope stage, microscope stages, microscopy

You can find more free articles on Article Side. Sign up today and share your knowledge to the community! It is completely FREE!