

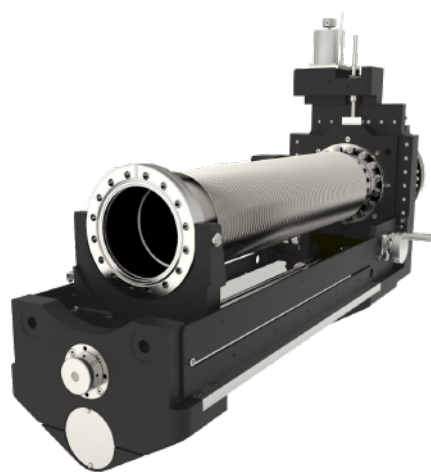
- CHOOSING THE RIGHT -

# Vacuum Components



When creating the perfect vacuum solution, there are three main areas that play a pivotal role.

Let's take a closer look at these vital components



## MANIPULATORS

Manipulators are essential. They enable precise control & positioning of objects within the vacuum chamber.

**Z-AXIS:** Enable smooth, precise movements along a single axis under ultra-high vacuum conditions.

**XYZ:** For complex movements that involve up to 5 axes of freedom when rotation is added, providing full 3D control.

**ROTARY MOTION:** Offering primary & azimuthal object rotation in addition to XYZ.



## ULTRA-HIGH-VACUUM (UHV) VALVES

These compact valves isolate or control pressure within a UHV system.

**UHV RIGHT ANGLE VALVES:** Offers rapid actuation & typically used for venting, isolation, & system pump-downs; with a high bake out temperature of 450°C.

**UHV LEAK VALVES:** Offers precise control of gas admission & ideal for maintaining low pressure environments.

**GATE VALVES:** Offers high conductance & tight sealing, gate valves are perfect for isolation load locks or pumps.



## DRIVES & MOTIONS

Responsible for controlling the movement of various components such as samples, stages & shutters.

**LINEAR DRIVES:** Used for small distance travel i.e. moving electron optics or apertures, stage alignment or source movement. Drives can be operated manually, with stepper motors or pneumatically operated.

**ROTARY DRIVES:** Aids rotational motion around an axis. Commonly used for sample rotation, shutter movement & spinning mechanisms to open & close actuators.

**WOBBLE STICKS:** Enables simple hand operated movements through the wall of the vacuum vessel. They are used for simple tasks, such as transferring samples from one device to another.

**HOLLOW LINEAR DRIVES:** Used when a probe or source requires high accuracy positioning within the chamber. The hollow drive allows scientific apparatus to be centrally inserted for linear movement.

**TRANSFER PROBES:** Magnetic & non-magnetic versions are used for transferring samples quickly between vacuum chambers over long travel distances. Magnetic transfer is used for fast, low cost manual transfer.

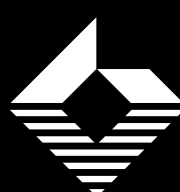
**NON-MAGNETIC TRANSFER:** Extremely accurate method of linear travel within the chambers, with an optional secondary rotation shaft for azimuthal movement. Non-magnetic transfer offers a direct drive, giving the safety of knowing where samples might be during a transfer process.

Choosing the right components is crucial for optimal operation of your vacuum systems.

Contact our experts to discuss your options.

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