# UHV WobbleStick

## LINEAR / ROTARY AND ANGULAR MOVEMENT IN HV or UHV

- Strong magnetic coupling
- Bakeable to 250°C
- Hydroformed bellows
  give reliable seal
- Constructed of all UHV-compatible material
- Linear rotation angular motions
- Handles flag-style plates, pucks & sample stubs

#### Customizable

## **Typical Applications**

A wide range of uses include:

- MBE substrate exchange
- Operating shutters
- Any short simple transfer



3 Axis MCTS Shown with Custom Sample Gripper for Discs

The Model MCTS, Magnetically-Coupled WobbleSticks are an economical way to perform simple linear / rotary / angular motion within a vacuum system. Robust and reliable, these WobbleSticks reduce the risk of leaks by eliminating the use of edge welded bellows.

Rare earth magnets provide a strong magnetic coupling. This completely UHV-compatible unit is bakeable to 250°C with the external magnet carriage assembly removed.

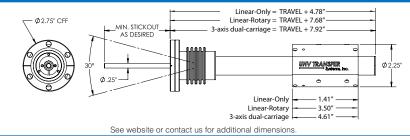
With customer specified linear travel and an angular tilt of  $\pm 15^{\circ}$ , WobbleSticks with one, two or three axis of motion can operate a variety of grippers and end-effectors including flag style sample holders.

A complete family of UHV Precision Magnetic Manipulators are available to perform more complex linear and/or rotary motions under vacuum. Call us to discuss your requirements and request datasheets with specifications.

## SPECIFICATIONS

| Material                              |                                |
|---------------------------------------|--------------------------------|
| Flange, outer tube                    | and shaft 304ss                |
| Seals                                 | Hydroformed ss Bellows         |
| Rare earth magne                      | is SmCo                        |
| Vacuum range                          | 1 x 10-11 Torr                 |
| Bakeout temperature                   | e 250°C magnet<br>removed      |
|                                       | 150°C magnet on                |
|                                       |                                |
| Linear force                          | 8 lbs (35.58N)                 |
| Linear force<br>Angular movement      | 8 lbs (35.58N)<br><u>+</u> 15° |
|                                       | · · · · ·                      |
| Angular movement                      | <u>+</u> 15°                   |
| Angular movement<br>Standard mounting | ± 15°<br>2.75" OD CFF          |

### DIAGRAM OF MAGNETICALLY-COUPLED WOBBLESTICK





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Wobble Stick DS-104 2-6-25