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# FERROVAC GMBH

**ULTRA HIGH VACUUM TECHNOLOGY** 

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# WM:: Wobblestick Manipulators

The magnetically driven wobblestick manipulators are particularly designed for delicate and precise manipulations in ultra high vacuum systems.

In opposition to customary products, the motion of the shaft is not affected by the difference between atmospheric pressure and ultra high vacuum. Therefore, the shafts of the wobblesticks can be guided by the operator in a smooth and controlled way. In addition to the linear and angular motion, the shaft can be rotated continuously.

#### **Specifications**

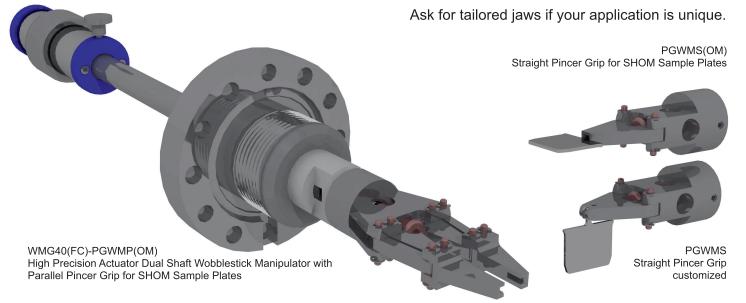
- linear travel: 100mm, 150mm, 200mm, 250mm, 300mm or customized
- angular deflection +/-20 degrees (WA-models: +/-28 degrees)
- linear force: 30N (HT-models: 60N)
- torque: 0.5Nm (HT-models: 1Nm)
- bakeout temperature: 150deg C max.
- pressure range 1\*10E-11mbar to 1000mbar
- fully UHV compatible materials

# WMG40 Dual Shaft Wobblestick Manipulator

Dual shaft wobblestick manipulators are designed to operate a pincer grip. Slight pressing of the two halfs of the knob against each other, will open the pincer.

The fine control (FC) magnetic coupling allows an even more precise control of pincer operation by turning a thumbwheel.

A variety of pincers are available for any know type of sample holder.



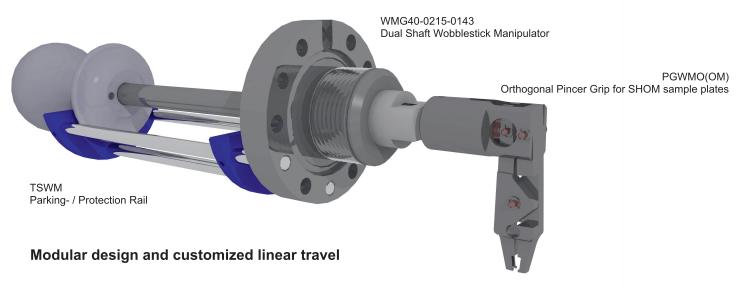
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Example of an WMG40 Manipulator configured as a direct replacement for the Omicron STM1

#### WMG40-0215-0143-PGWM0(0M)-TSWM

Orthogonal Pincer Grip WM for SHOM Sample Plates

Parking- /
Protection Rail

YYYY: fully retracted distance in millimeters from flange face to:

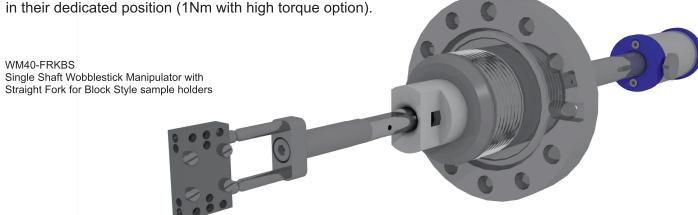
- a. End of pincer grip if a straight pincer grip is installed.
- b. End of inner shaft if no pincer grip is chosen.

XXXX: linear travel in millimeters

WMG40 Dual Shaft Wobblestick Manipulator

### WM40 Single Shaft Wobblestick Manipulator

Single shaft wobblestick manipulators can be used with simple forks for sample exchange or as a screwdriver, to tightly lock sample holders in their dedicated position (1Nm with high torque option)



### WMWA40 & WMGWA40 Wide Angle Wobblesticks

WA-models allow for an extended angular deflection of +/-28 degrees.

## **TSWM Parking-/ Protection Rail for Wobblesticks**

Wobblesticks require special care to be taken, so that the operators do not accidentally bend the tube while the wobblestick is not in use.

The removable parking rail supports and protects the shaft of the wobblestick.