Docking Station

for Nanorobotics Manipulators

Stationary Manipulator mounting

Keeps the sample stage independent from the manipulator and so enables plenty of new applications (e.g. particle sorting).

The manipulator tools are always in the view field of the SEM and can be used at any point of the samples, also at large samples.

Docking station

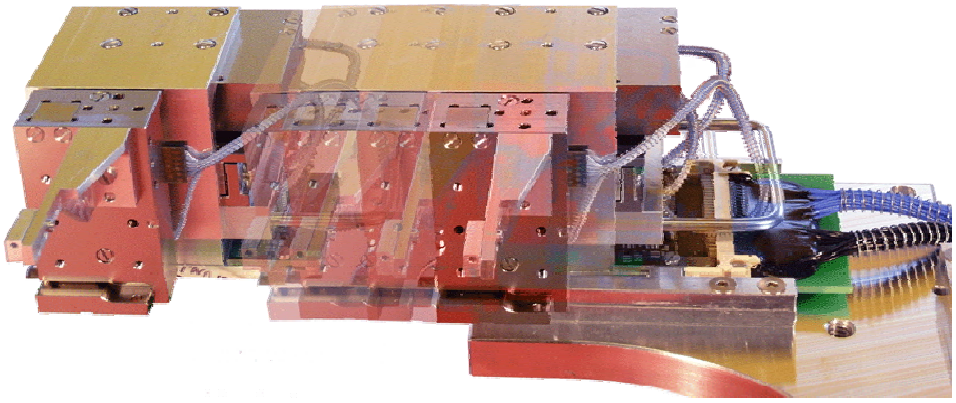
The docking station (patent pending) combines the advantages of the stationary manipulator assembly with a fast and easy plug in and plug out of the manipulator by the user, e.g. for:

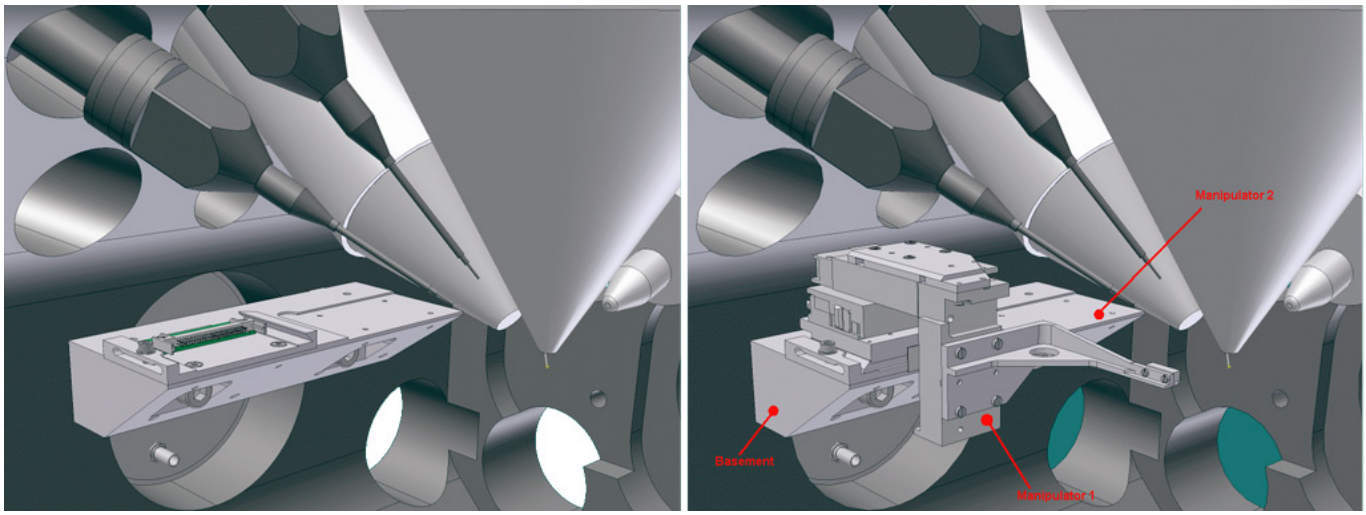
- having more space in the chamber
- convenient exchange of a tool at the manipulator outside of the chamber
- usage of the manipulator in air or in another chamber to reduce investment

Docking station realization 1

Manipulator pushed into its docking station. The cable set stays in the chamber.

This version is made for a port assembly as shown in the following CAD drawings:





Left: Basement fixed at a chamber port carrying one of two docking stations; *Right:* with manipulator

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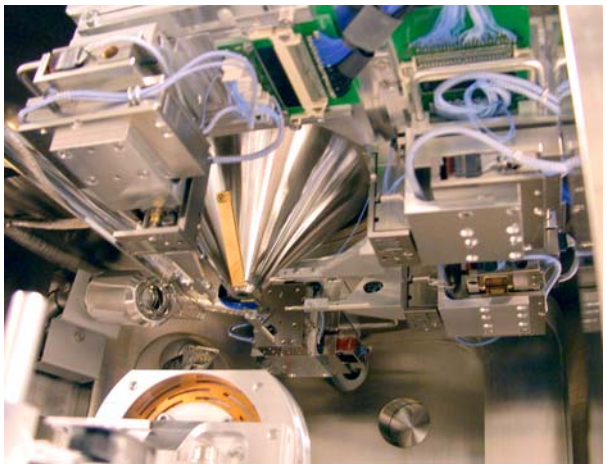
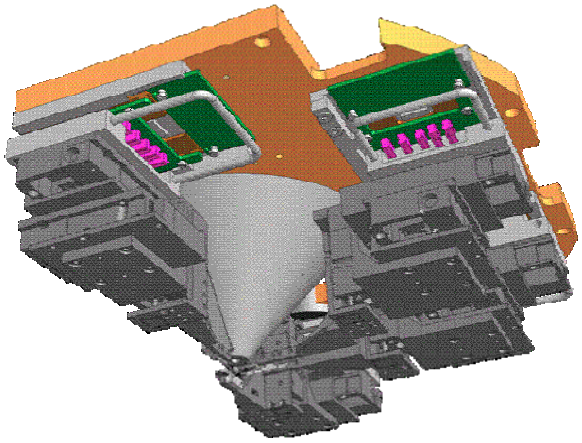
Docking station realization 2

When the space in the chamber allows a roof mounting of the docking stations this method is preferred. The following examples show roof mountings:

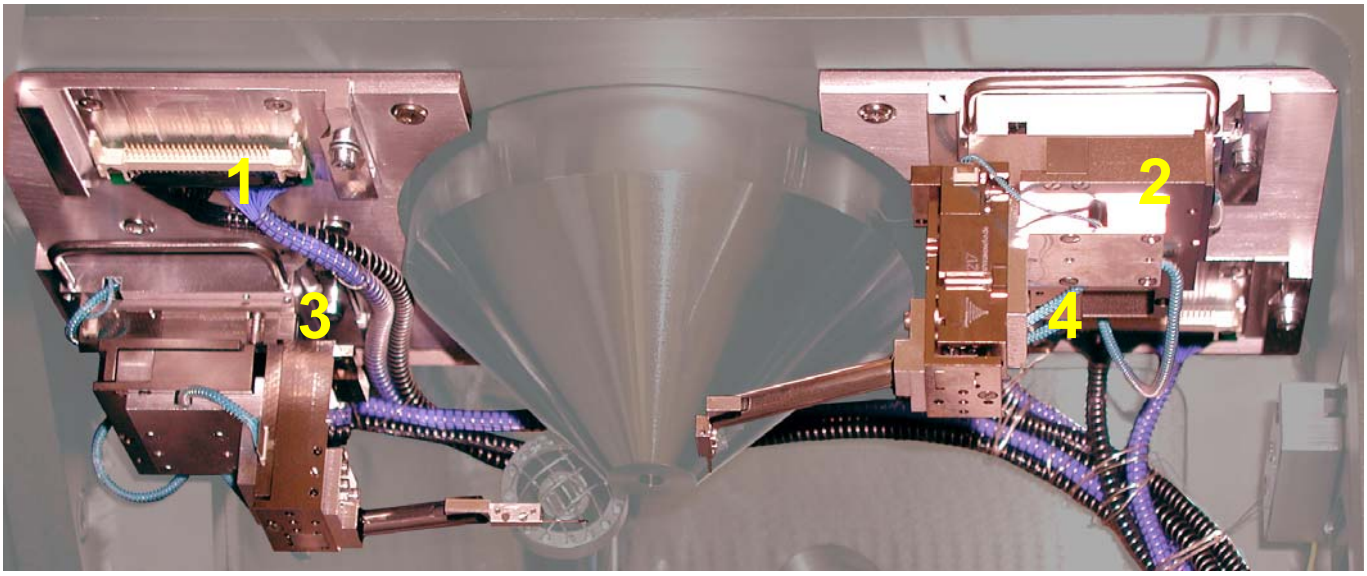
1. in a ZEISS chamber:





Left: 4 Manipulators in docking stations around the pole pieces; *Right:* 3D-CAD Model of it

2. in a TESCAN chamber:



4 docking stations around the pole pieces; Position 2 and 3 are filled with a manipulator

■ **Future proof concept** ■ **Surpassing safe and easy operation** ■ **Unique applications** ■

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