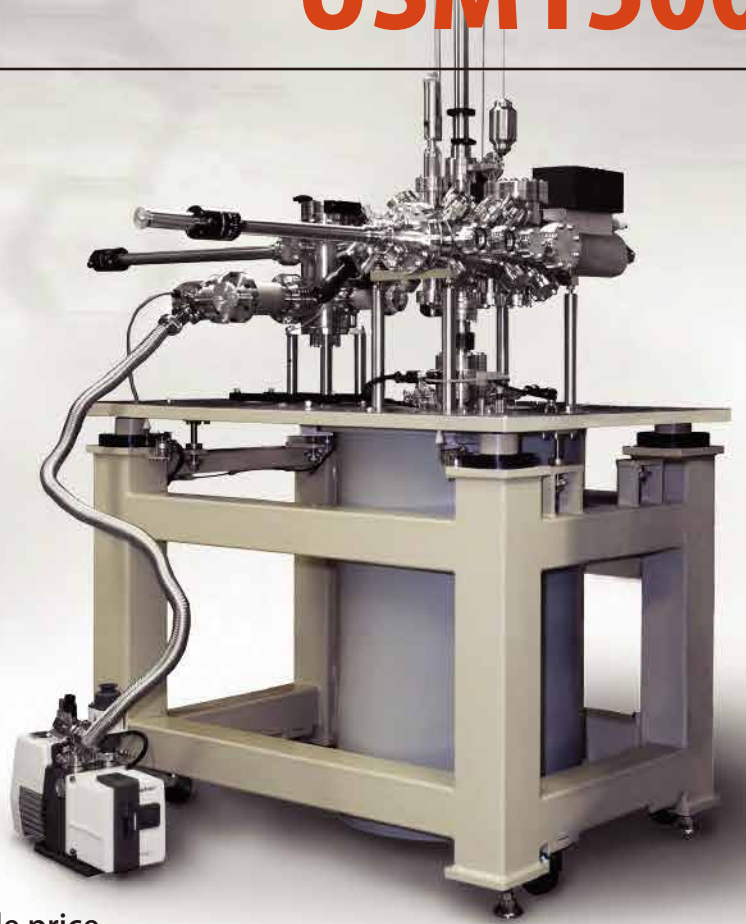


^4He LT UHV SPM with SC Magnet USM1500

USM1500 is a newly designed Low Temperature SPM with Super Conducting Magnet. This system covers wide variety of applications of surface science researches in physics, chemistry, and biology.



Features

- Compact design, easy operation, reasonable price
- Operation in variable temperature: down to 2.0K
- Stable operation in high magnetic field up to 8T
- AFM function is applied for non-conductive materials
- Simultaneous measurement of STM/AFM, using conductive AFM probe
- Introduction of optical fiber or high frequency coax cable to SPM head

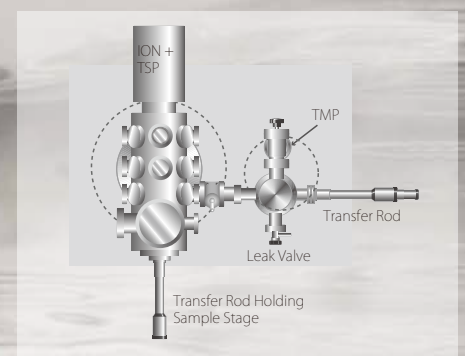
System Line Up

- USM1500S: Load lock, preparation, and STM insert chamber
- USM1500SA: includes AFM function

Options

- Extra chamber available for organic material deposition
- Spatter gun, K-cell deposition source, E-beam heating power supply and other useful attachments

Structure



Specifications

USM1500

System Line Up

USM1500S: Load lock, Preparation, and STM insert chamber

USM1500SA: includes AFM function

Options

Extra chamber for organic material deposition is available

Spatter gun, K-cell deposition source, E-beam heating power supply and other useful attachments are available.

Specifications

Load lock chamber

114mm diameter

10^{-5} Pa in 20min pumping time

ICF 70 gate valve

ICF 114 quick accesses door can be exchanged to conflat flange

ICF 114 pumping port using L valve

70L/sec TMP and 110L/min rotary pump

ICF 70 leak valve and ion gauge port

ICF 70 magnetic transfer rod

Preparation Chamber*

152mm diameter

10^{-8} Pa base pressure

Ports for accessories ICF 152, ICF 114, 12 x ICF 70

Transfer rod for manipulating sample and probe stage

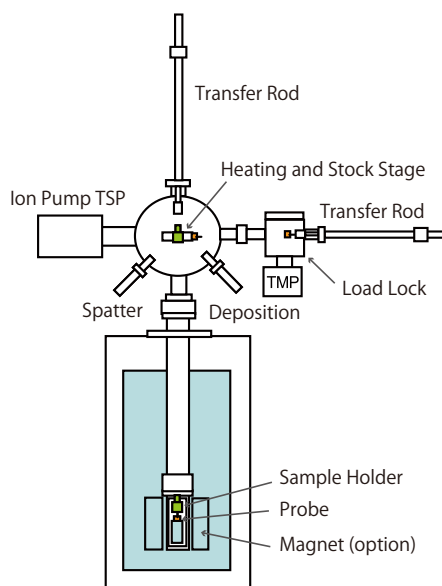
4 Sample and 4 probe can be held on the stage

Sample current and EB heating is possible on the stage

ICF 70 gate valve is installed on the insert chamber

150L/sec ion pump with TSP is installed

*The system of individual preparation chamber and exchange chamber is also selectable.



LT STM Chamber

Cryostat

40L LHe cryostat with super insulation

Low LHe consumption 0.35L/hour

LHe level mater and temperature controller are included

Insert

Variable temperature design from 2.0K to RT

Super conducting magnet 8T can be installed as an option

STM (AFM function is possible)

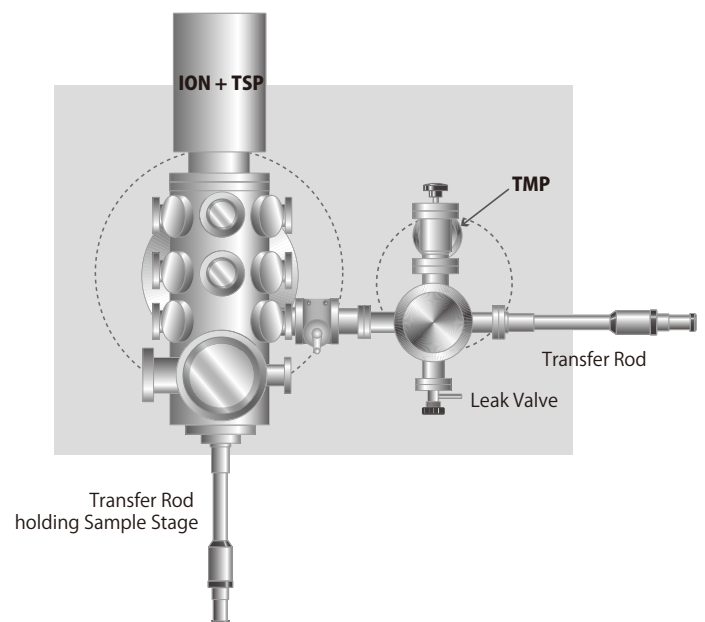
Coarse adjust of sample stage is installed, displacement of 0.5mm in XY directions

Coarse displacement of 3mm in Z direction

Scanning Range: 4 micrometer in XY direction at RT

Servo Range: 0.7 micrometer in Z direction

Scanning and servo range are decreased 1/4 at 4K



Instrumental components are subject to change without prior notice for improvement in performance.

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III Group

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