

Specification of Probe Station:

Vacuum chamber with 110mm high IR transmission optical flange window
 Radiation shielding with 100mm low IR transmission optical window
 4inch chuck with ± 5 micron flatness
 6 micropositioner flange adapters
 1 KF40 vacuum port and 1 vent port for fast release
 Coaxial Vapor-cooled shielding optimizes cryogen efficiency
 Cryogen flowback design for radiation shielding
 KF flange , System Ultimate vacuum better than 5×10^{-4} Pa (with 250L/s turbo pump)
 Leak rate better than 1.3×10^{-10} Pa.M3/s
 Cooldown time from RT to 80K (LN2) /10 K(LHe): <40 mins
 Temperature stability: ± 100 mK

Microscope

10 micron tip diameter probe, 5PC/BOX
 Triaxial (Female) HS adapter
 Field-of-View (High-Mag.): 0.91 x 1.22 mm
 Working Distance: 89 mm
 150W High Power LED White Light Intensity Stepless Control LS-2

Vibration Free Table

Dimension: 75cm x 65cm (For reference only, The actual size will be adjusted according to the probe station)

Vertical Natural Frequency 1.5Hz
 Horizontal Natural Frequency 1.2Hz
 Weight Around 400kg

Leybold Turbo station

Pumping rate(N2): 90l/s for NW40 bellow
 Ultimate vacuum better than 5×10^{-8} mbar
 Compression ratio(N2): $> 1 \times 10^{11}$
 For vacuum measurement (Pirani gauge and ionization gauge)

Temperature Controlling systems

Two PID channels output and 3 channels input
 Loop1 Heater output 600 watts, current controlled
 Loop2 Heater output 200 watts for radiation shielding

Temperature range : 77K-770K(LN2)

Temperature resolution : 0.001°C
 Chuck surface temperature compensation function
 Sensor Temperature deviation: 0.5%
 3 PT100 Sensors for Chuck, radiation shielding and tip holder

LN2 flow rate automatic control

LN2 Dewar with rollers and brakes
 LN2 Flow modual and temperature module working together to control chuck temperature
 Manual and automatic LN2 control available

21.5 inch HD display

HDMI interface HD (2 megapixels) CCD 16

Shunmukhi
 22-Jan-2026