

System	Fully motorized transfer system	Manual transfer system
Product code	HQ2D MOT	HQ2D MAN
Applications		
2D heterostructure fabrication	✓	✓
Twisted 2D production (twistronics)	✓	✓
Transfer of large size CVD 2D layers	✓	✓
High resolution microscopy [for making sharp images of 2D layers: high NA and magnification objectives]	✓	✓
Inside a glovebox with air sensitive materials	✓	✓
Nanowire manipulation	-/✓	-/✓
Independent degrees of freedom		
XY-mask	✓	✓
XY-sample	✓	-/✓
Large XY: mask and sample collectively	✓	✓
Z-mask [For compactness, the sample to mask distance is by default controlled with Z-sample]	-	-/✓
Z-sample	✓	✓
Tilt mask in xz-plane	✓	✓
Tilt mask in yz-plane	✓	✓
Rotation sample holder	✓	✓
Loading/unloading sample	✓	✓
Microscope focus	✓	✓
Properties		
Overall dimensions WxDxH [microscope with mechanical platform, dimensions may differ for modified systems]	55 x 43 x 72 cm	52 x 44 x 65 cm
Footprint microscope with mechanical platform	35 x 35 cm	35 x 35 cm
Mass microscope with mechanical platform [dimensions may differ for modified systems]	38,5 kg	22,5 kg
Sample movement range	50 mm	20 mm
Rotation resolution of sample holder	1 mdegree	20 mdegree
Z-movement resolution	40 nm	sub micron
Sample temperature control range	RT to 200°C	RT to 200°C
Temperature resolution	0.1°C	0.1°C
Temperature control rate	1°C/min to 1°C/s	0.1°C/s to 2°C/s
Number of microscope objectives on turret	up to 6	up to 5
Dark field (DF)/Bright field (BF) microscope options	DF/BF	BF or DF/BF
Included features		
Software for imaging and control	✓	✓
System fully controlled with computer	✓	-
support from HQ Graphene team	✓	✓
Mechanical platform partially motorized [inform at hq graphene for the motorization options]	N/A	-/✓

-/✓ = optionally, see list of modified transfer systems