Laser System

Lase sources (Excitation wavelength): 532 nm 50 mW diode pumped solid state laser
785 nm 100 mW

Laser(s) on integral base plate
Laser conditioning aperture
Alignment optimization
Attenuating filter steps
Attenuating filter control
Motorized laser beam steering mirrors (allow for auto-align of laser spot to sample)
Motorized neutral density filters (offering 16 different power levels from 0.00005 to 100%)

Detector

High sensitivity ultra-low noise CDD (Peltier cooled to 70 degree)

Diffraction System

Gratings: 1200 l/mm; 2400 l/mm
Holographic diffraction system
Motorized grating mount
Confocally control

Microscope

Leica Optical Microscope: eyepieces and video viewer; Transmitted and reflected light illumination; Illumination iris control; Illumination brightness control; Viewing/Raman changeover

Objectives:

5X	WD=14 mm
LWD50X	WD=8.2mm
20X	WD=1.1 mm
50X	WD=0.37 mm
100X	WD=0.35 mm

Microscope Stages: Renishaw HSES motorized stage
Step Size: 100 nm, Stage Travel: 112 mm x 76 mm, 16 nm Z

Class 3B Microscope enclosure

Resolution

Spatial Resolution: 1 um
Spectral resolution: 0.5 cm^{-1} in visible region

Raman Shift Range

Raman shift range: 100 – 4000 cm^{-1}

Excitation Rejection Filters

Filter change system

Polarization System

Polarization Rotator (1/2 wave plate)

Others

Renishaw SEM/SCA (Structural Chemical Analyzer) for 532nm and 785nm
HSES Accessory Kit

Software

Renishaw Wire 5.2
Renishaw Minerals/Inorganic database