### LYRA 3 XM

**FEG-SEM Specific Features**

- High brightness Schottky emitter for high-resolution / high-current / low-noise imaging
- Unique three-lens *Wide Field Optics*™ design offering the variety of working and displaying modes embodying the Tescan proprietary Intermediate Lens for the beam aperture optimization
- Real time *In-Flight Beam Tracing*™ for the performance and spot optimization integrating the well established software *Electron Optical Design*
- Fast imaging rate with Tescan first class YAG-based detectors
- Fully automated microscope set-up including electron optics set-up and alignment

**FIB Specific Features**

- Unique ion optic column differentially pumped, with 2 ion pumps, for ultra-low ion scattering effect
- Motorized aperture changer with ultra-high reproducibility
- Beam Blanker and Faraday cup included as a standard
- Simultaneous SEM imaging with FIB etching or deposition

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### Specifikace vybraných parametrů LYRA 3 XM:

<table>
<thead>
<tr>
<th></th>
<th>SEM Column</th>
<th>FIB Column</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Magnification</strong></td>
<td>3x - 1,000,000x</td>
<td>Probe Current</td>
</tr>
<tr>
<td><strong>Electron Gun</strong></td>
<td>High brightness Schottky Emitter</td>
<td>Accelerating Voltage</td>
</tr>
<tr>
<td><strong>Resolution (SE)</strong></td>
<td>1.2 nm at 30 kV</td>
<td>Gun Vacuum</td>
</tr>
<tr>
<td><strong>Accelerating Voltage</strong></td>
<td>200 V to 30 kV</td>
<td>Magnification</td>
</tr>
<tr>
<td><strong>Probe Current</strong></td>
<td>2 pA to 100 nA</td>
<td>Resolution (SE)</td>
</tr>
<tr>
<td><strong>Ion Gun</strong></td>
<td>Ga liquid metal ion source</td>
<td></td>
</tr>
</tbody>
</table>

**Chamber**

- Internal diameter: 300 mm (width) x 300 mm (depth)
- Door Size: 280 mm (width) x 310 mm (height)
- Number of ports: 9+
- Chamber suspension: active vibration isolation

**Stage**

- Type: 5-axis fully motorized, compucentric
- Movements: X = 130 mm, Y = 130 mm, Z = 100 mm
- Rot.: 360° continuous, Tilt: -20° to +80°
- Maximum Specimen Height: 137 mm
GIS Option Features

- Ideal geometrical configuration with respect to SEM and FIB columns
- 5 independent gas reservoirs with capillaries or optionally up to 3 individual "MonoGIS" systems
- 3-axis microstage with automatic nozzles positioning
- Automated temperature control

- FIB control is fully integrated in the SEM software
- Powerful toolbox for basic shapes creation with programmable process parameters