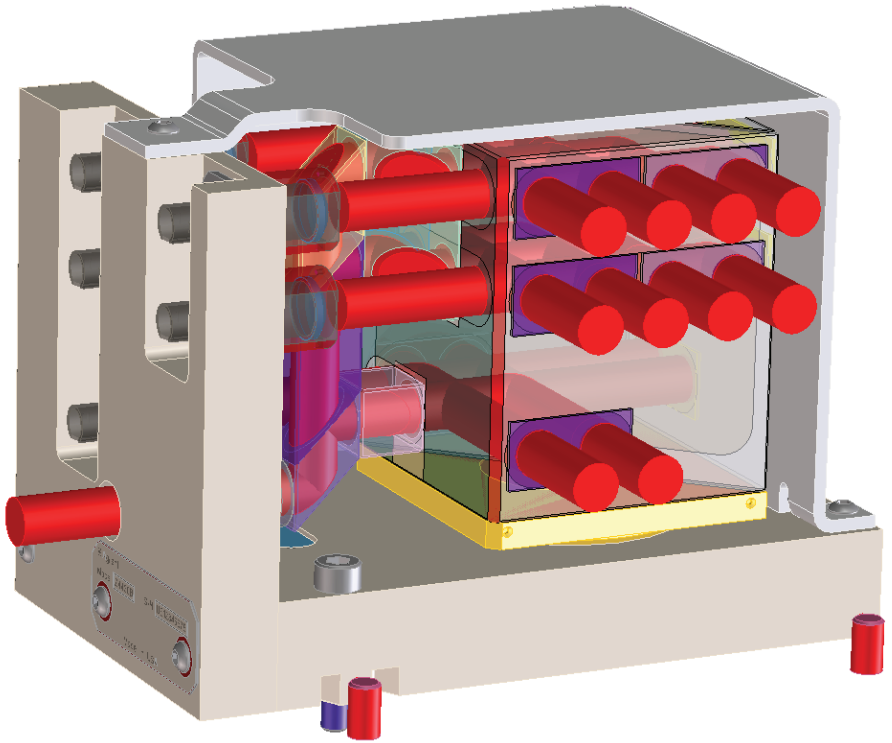
Quick Fact Sheet

Agilent Z4420B Five-Axis Plane Mirror Interferometer

The Agilent Z4420B five-axis plane mirror interferometer features pre-aligned optical sensors, excellent beam parallelism, low non-linearity error and low thermal drift. Machined datums aid in positioning the unit and reduce alignment effort.



Z4420B Five-Axis Plane Mirror Interferometer with cover and positioned against customer supplied datum pins.

Key features

- Non-linearity error ±1 nm.
- Accommodates 9 mm and smaller input beam.
- High (~1 kHz) mechanical resonance frequency.
- λ/4 optical resolution.
- 10 nm/°C or less thermal drift.

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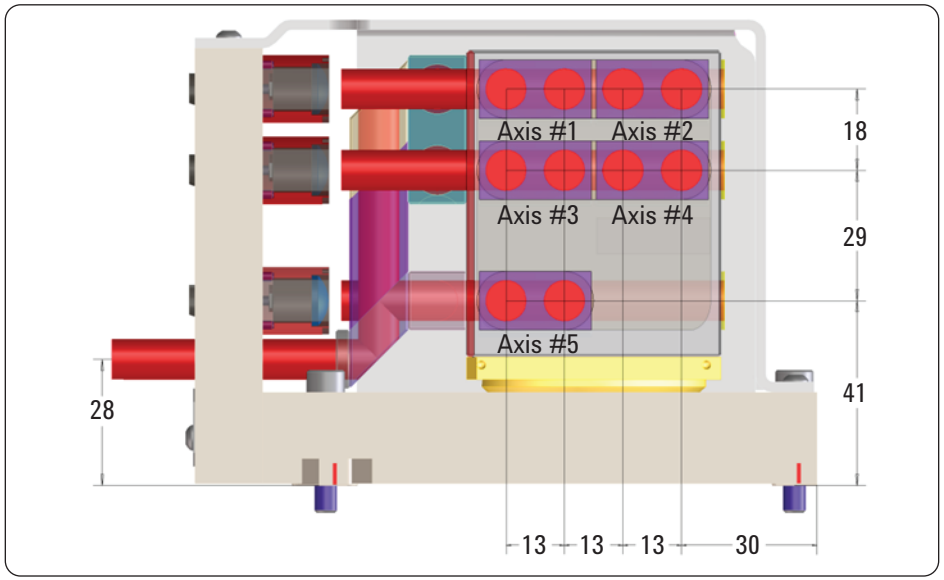
Key specifications

Options	Desciption
Weight	3.13 kg (6.9 lbs)
Dimensions (L x W x H)	• 139.3 mm x 84 mm x 97 mm (without cover) • 139.3 mm x 88 mm x 103.4 mm (with cover)
Materials	• Baseplate: Passivated 416 stainless steel • Optics: BK-7
Natural frequency	~ 1 kHz
Mounting interface	• Fasteners: M5 x 0.8 Captive SHCS • Surface profile: 0.02 mm • Surface finish: 0.4 µm
Beam diameter	9 mm maximum visible
Resolution	• Optical: λ/4 • Linear: 0.15 nm using 1024x resolution extension
Thermal drift due to glass path length imbalance	10 nm/°C or less
Non-linearity error	±1 nm
Optical efficiency (input power divided by axis output power)	• Typical for all axes except Axis #5: 10% • Typical for Axis #5: 7% • Worst case for all axes except Axis #5: 7% • Worst case for Axis #5: 5%
Measure point tolerance	• Mean: ±0.15 mm • Deviation: ±0.05 mm
Input beam cone angle	< 1 mrad
Beam parallelism	• Axis #1 to Axis #2: < 25 µrad • Axis #1 to Axis #3: < 25 µrad • Axis #2 to Axis #4: < 25 µrad • Axis #3 to Axis #4: < 25 µrad • Axis #3 to Axis #5: < 100 µrad
Operating temperature	19 °C to 26 °C
Measurement mirror recommendation	• Reflectivity: > 92% • Flatness: λ/20



Z4420B beam position in mm and axis numbering.

For more details on Agilent interferometry systems, components and ordering information please visit **www.agilent.com/find/lasers**

5990-5273EN

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