MR-E-2 Development Kit

- Graphic user interface *Optotune Cockpit* for control via USB
- Communication interfaces:
  - USB, UART
  - SPI (I^2C available on request)
  - Analog input (± 5 V)
- Software SDKs for Python and C# available.
- RoHS, REACH and CE certified

Mechanical specifications base unit

Dimensions (L x W x H)	116.0 x 84.6 x 34.6	mm
Weight	208	g
USB connector	Micro B	
Accepted DC Barrel Plug	2.1 I.D. x 5.5 O.D. x 10.0	mm

Mechanical specifications head unit

Diameter	45	mm
Cable length	1	m
Height	31	mm
Weight	420	g

Electrical specifications

Supply voltage range	15 to 28	Vdc
Total power consumption (max)	12	W

Thermal specifications

Storage temperature	-40 to +85	°C
Operating temperature	0 to 40	°C

Mirror specifications (general)

Actuator Type	4-Quandrant (2 axis, bi-directional)	
Zero drift (maximum)	25	μrad/°C
Resolution (closed loop)	22	μrad
Magnetic shielding	yes	
Surface finish	Gold or protected silver, other coatings available on request	
Reflectivity (gold)	> 97% (800 nm - 20 μm)	
Reflectivity (silver)	> 94% (450 nm – 750nm)	
Surface quality (Scratch-Dig)	60 - 40	
Mirror flatness (ISO 10110)	λ/2	

Mirror specifications (MR-15-30 version)
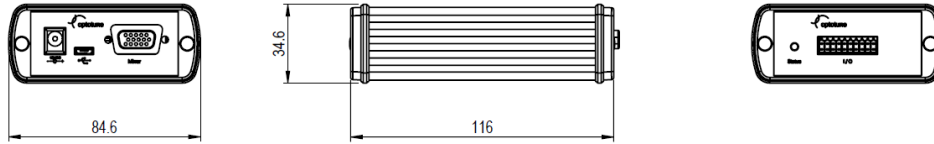
Mechanical tilt angle DC	±25 in every direction	°
Mechanical tilt angle dynamic	±25 in every direction	°
Mirror diameter	15	mm
Distance center of rotation to mirror surface	1.3	mm
Repeatability RMS (typical)	30-100	μrad
Full scale bandwidth, Sine wave (±25°)	20	Hz
Small signal bandwidth (< ±0.1°)	350	Hz
Large angle step settling time (20° step)	12	ms
Small angle step settling time (0.1° step)	2	ms

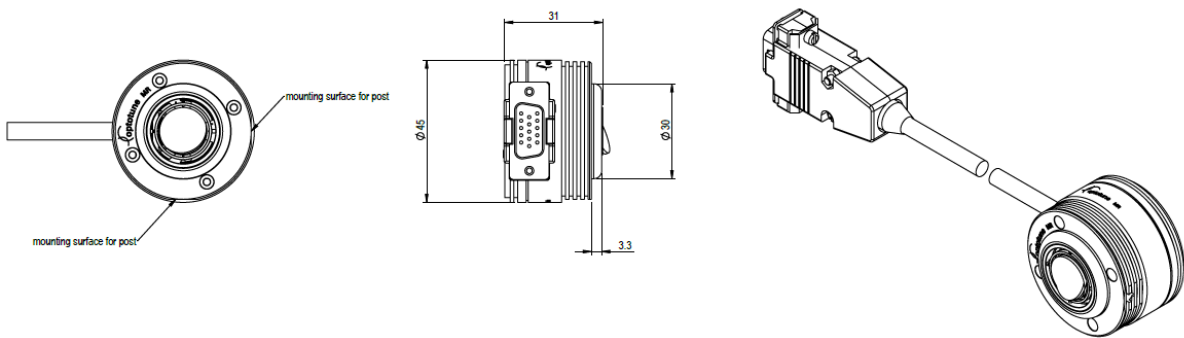## Mirror specifications (MR-10-30 version)

Mechanical tilt angle DC	N/A X axis; ± 25 Y axis	°
Mechanical tilt angle dynamic	± 12.5 X axis; ± 25 Y axis	°
Mirror diameter	10	mm
Weight	29.3	g
Full scale bandwidth, sine wave	20 for the static axis, approx. 280 for the resonant axis	Hz

Description and Features
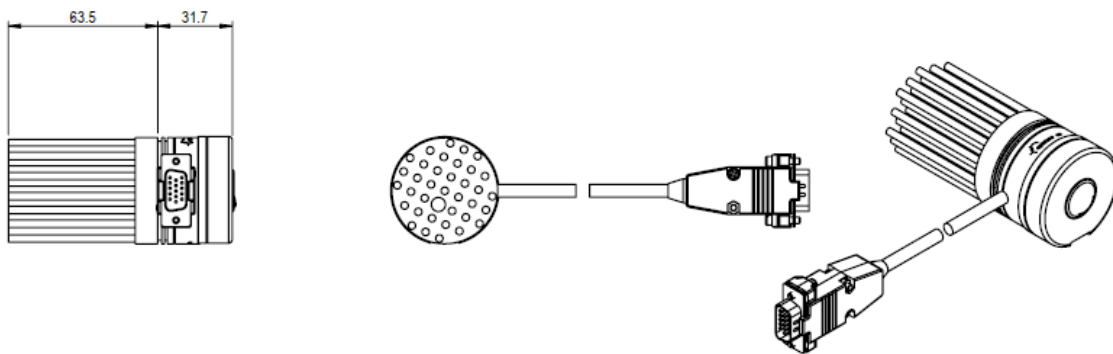
Base Unit

Mirror Head

Mirror Head with Heatsink

Overview of Available Standard Products

Standard Product	Mirror type included	Components included
MR-E-2 Base unit	N/A	MR-E-2 Base unit controller box Power supply USB cable
MR-E-2 Mirror head gold	MR-15-30-G-25x25D	Mirror head (incl. mirror and cable) Protection cap Heatsink
MR-E-2 Mirror head silver	MR-15-30-PS-25x25D	
MR-E-2 Mirror head custom	MR-C-15-30 (custom mirror) or resonant mirror MR-10-30-G/MR-10-30-PS	