The Polytec VibroFlex laser Doppler vibrometer is a modular high-performance solution for non-contact vibration measurement. It offers unrivalled measurement performance and versatility for solving pressing vibration issues in both R&D and industrial quality control.

The VibroFlex family comprises the front-end VibroFlex Connect and a selection of non-contact laser sensor heads. Integrated with the VibSoft data acquisition and analysis software, the vibration measurement system is ready to go. Study acoustics, dynamics and vibrations on nano to macro structures without contact and with laser precision.

VibroFlex Neo is the robust and reliable laser Doppler vibrometer for demanding vibration measurement tasks. Gather high-resolution vibration data anytime, and even measure through transparent media like glass for climate chamber tests or water like fluid-coupled ultrasonic analysis.

VibroFlex - the new flexibility of laser vibration measurement.

Highlights

- Outstanding nominal signal-to-noise ratio (SNR)
- Integrated signal level indicator for optimizing data quality
- Fast remote and auto focus for best signal quality
- Measures through transparent media like glass or water
- Full remote control for zero impact on the measurement setup

VibroFlex Neo

For demanding vibration measuring tasks

Datasheet

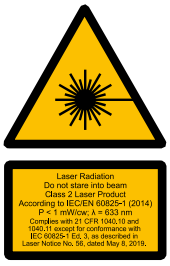
Technical data

General specifications				
Model	**VibroFlex Neo VFX-I-110**			
Weight	3.3 kg			
Protection class	IP40			
Dimensions [W x H x L]	125 x 88 x 365 mm			
Operating temperature	+5 °C ... +40 °C (41 °F ... 104 °F)			
Storage temperature	-10 °C ... +65 °C (14 °F ... 149 °F)			
Relative humidity	max. 80%, non-condensing			
Controller compatibility	VibroFlex Connect			
Maximum velocity	± 12 m/s			

Optical specifications	
Laser type	Helium Neon (HeNe)
Laser class	Class 2, < 1 mW
Laser wavelength	633 nm, visible red laser beam
Focus	Auto focus [1], remote focus, manual focus [2]
Maximum stand-off distance	ca. 100 m (with VFX-O-LRS long range front lens, surface dependent)
Visibility maxima [3]	207 mm + n · 204 mm; n = 0, 1, 2, 3, ...

Working distance and laser spot size				
Front lenses	**VFX-O-SRS short range**		**VFX-O-LRS long range**	
Min. stand-off distance [mm] [3]	34		390	
Max. stand-off distance [m] [3,4]	ca. 15		ca. 100	
Exit beam diameter (1/e²) [mm]	3...5		12...14	
Stand-off distance [mm] [3]	Typical spot size [µm]	Depth-of-fied [mm]	Typical spot size [µm]	Depth-of-fied [mm]
34 mm	14	±0.1	–	–
100 mm	20	±0.5	–	–
200 mm	37	±2	–	–
300 mm	53	±4	–	–
400 mm	70	±6	23	±0.7
500 mm	87	±9	30	±1
1,000 mm	171	±36	64	±5
2,000 mm	345	±148	132	±22
3,000 mm	526	±344	201	±50
5,000 mm	906	±1021	340	±144
Each additional meter add [µm]	+190	–	+70	–

Compliance with standards		
Laser safety	IEC/EN 60825-1	
Electrical safety	IEC/EN 61010-1	
EMC	IEC/EN 61326-1	
	Emission:	Limit class B IEC/EN 61000-3-2 and 61000-3-3
	Immunity:	IEC/EN 61000-4-2 to 61000-4-6 and IEC/EN 61000-4-11



[1] Used auto focus range can be limited individually for shorter cycle time.

[2] Quick and easy operation of all focus functions with turning knob on sensor head, on touch screen of front-end VibroFlex Connect or remote controlled from a computer or digital device.

[3] Measured from the front edge of the front lens.

[4] Depending on the surface properties of the measured object.

Options and accessories

Optical accessories		
VFX-O-SRS SR Front Lens	Short Range front lens for measuring at short working distances (highest depth of focus)	
VFX-O-LRS LR Front Lens	Long Range front lens for measuring at long working distances	

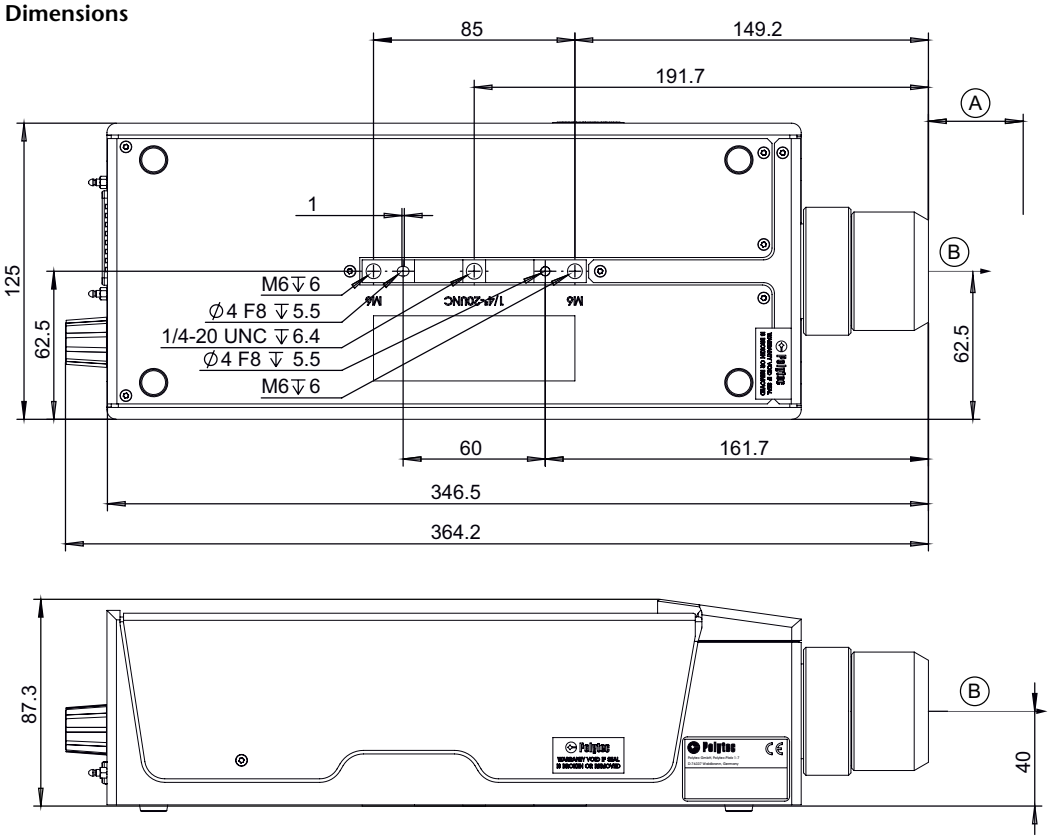
Tripods		
VIB-A-T02 Standard Tripod	Easy targeting on the object under test	
VIB-A-T05 Tripod with Geared Pan/Tilt Head	For precise pointing of the sensor head. The geared pan/tilt head allows quick coarse adjustment and fine adjustment in 3 axes	

Transportation cases		
VIB-A-CAS11 Transportation Case (VibroFlex Neo VFX-I-110)	Robust transportation case for the sensor head (included with sensor head)	

Positioning stages		
VIB-A-P01 Tilt Stage	Allows fine adjustment of the sensor head by tilting. The tilt travel is ±9°. Quick release plates to interface with VIB-A-T02 and VIB-A-T05 tripods are included	
VIB-A-P02 2-Axes Stage: X plus Tilt	Allows fine adjustment of the sensor head in 2 axes. The travel of the traverse stage is 105 mm and the tilt travel is ±9°. Quick release plates to interface with VIB-A-T02 and VIB-A-T05 tripods are included	
VIB-A-P06 3-Axes Stage: XY plus Tilt	Allows fine adjustment of the sensor head in 3 axes. The travel of the x & y traverse is 100 mm along and across laser beam and the tilt stage is ± 9°. Quick release plates to interface with VIB-A-T02 and VIB-A-T05 tripods are included	

Polytec offers a wide range of accessories for setting up and performing measurements. Please contact your local vibrometer sales engineer or visit our website **www.polytec.com/vibroflex** for more detailed information.

Dimensions



All dimensions in mm if not marked otherwise

(A) Stand-off distance

(B) Beam

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Polytec GmbH · Germany
Polytec-Platz 1-7 · 76337 Waldbronn

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