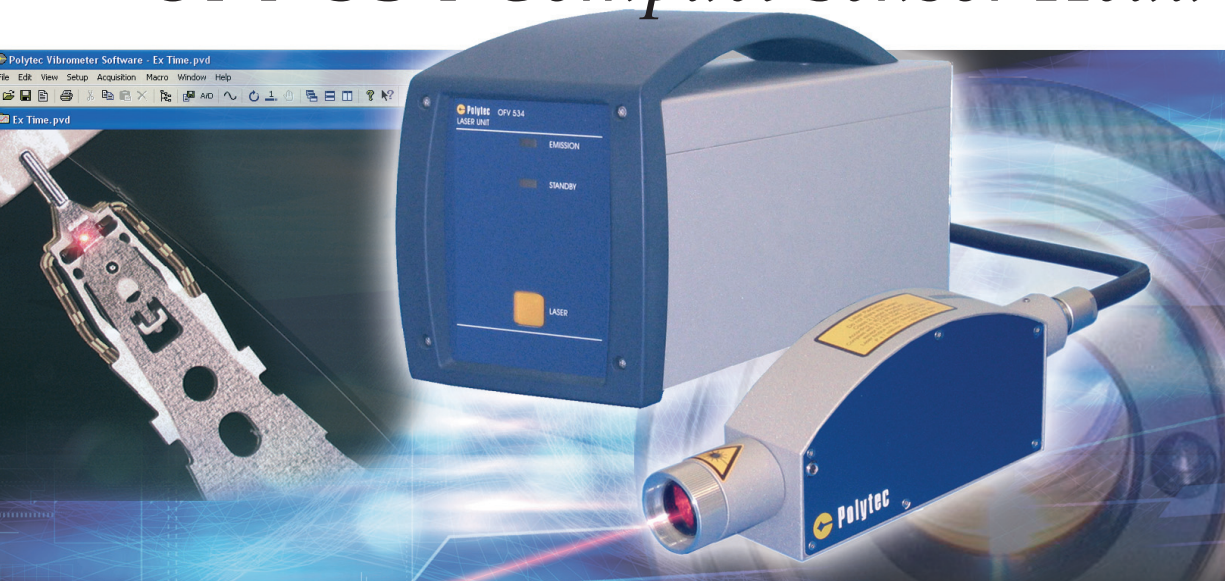
OFV-534 *Compact Sensor Head*



MODULAR VIBROMETER SYSTEM

- OFV-5000 Vibrometer Controller
  - Velocity Decoders
  - Displacement Decoders
- OFV-505/503 Standard Sensor Heads
- OFV-551/552 Fiber Interferometers
- **OFV-534 Compact Sensor Head**

VERSATILE, PRECISION VIBRATION MEASUREMENT

Fitting a sophisticated heterodyne laser interferometer into an extrordinarily small package is only one of many design triumphs that sets the OFV-534 Compact Vibrometer Head apart from its competition. Two outstanding innovations include an integrated CCD video camera to improve test sample monitoring and laser spot positioning; and, an add-on microscope objective lens to measure microstructures with a 1.5 micron spot. Other no less remarkable features include high sensitivity, low noise and convenient mounting in space-limited situations.

The Perfect Solution

The Compact Vibration Head is the perfect solution for making precision vibration measurements where space and weight are at a premium. The new head packs sophisticated technology into a small light weight head perfect for stable mounting, motorized positioning and squeezing into space-constrained locations.

Polytec vibrometers are the Gold Standard in optical sensitivity. With the new generation OFV-534, this sensitivity comes in a standard optical package that can be focused from 200 mm to infinity. The housing is IP-50 protected and has a 3 m cable to the external laser unit.

A color video camera option provides a real-time image of the test object and provides feedback on laser spot positioning. In addition, an optional microscope objective can be attached to the OFV-534's body for measuring vibration response on objects as small as microstructures. Designed to cover a wide range of challenging applications, the OFV-534 Compact Vibrometer Head has measurement versatility that covers anything from a macro test stand with camera-supported positioning to measuring vibrations on micro-structures positioned with a probe station.

The new sensor head can be operated with either the modular OFV-5000 Vibrometer Controller or a controller from the new OFV-2500 Family.

Features

- Very compact, industry-rugged optical vibration sensor
- Practical, easy, “point & measure” capability
- Low power, visible, eye-safe (class 2) laser
- Variable focus lens from 200 mm to infinity
- Video camera option
- Microscope objective option for measuring microstructures with a 1.5 micron spot
- Operates with OFV-5000 or OFV-2500 Vibrometer Controllers

OFV-534 Technical Data

Optics Specifications									
Laser type		Helium neon (HeNe)							
Laser protection class		Class 2, < 1 mW, eye-safe							
Laser wavelength		633 nm, visible red laser beam							
Minimum stand-off distance		200 mm							
Minimum spot size		1.5 µm (with VIB-A-20xLENS 20X objective)							
Maxima of visibility (coherence)		287 mm + n · 204 mm; n = 0; 1; 2; ...							
Video Camera (optional)									
Camera type		¼" CCD Color Board Camera							
Active pixels (H x V)		510 x 492							
Lens		F 4.5							
Shutter speeds		Automatic from 1/60 to 1/100,000							
Characteristics									
Stand-off distance[1]	mm	20.0[2]	33.5[3]	200	300	500	1000	2000	each m
Depth-of-field	mm	0.012	0.048	±2	±6	±19	±81	±339	-
Spot size (1/e²)	µm	1.5	3.0	25	40	70	148	302	add 150
Camera field of view	mm x mm	0.68 x 0.52	1.36 x 1.04	10 x 8	17 x 13	31 x 24	64 x 49	130 x 100	-

[1] Measured from the front edge of the sensor head housing

[2] With VIB-A-20xLENS 20X objective [3] With VIB-A-10xLENS 10X objective

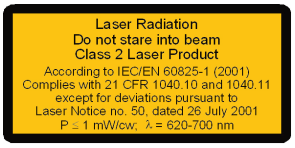
General Specifications	Sensor Head	Laser Unit
Dimensions (L x W x H)	201 mm x 38 mm x 71 mm (7.9 in x 1.5 in x 2.8 in)	309 mm x 120 mm x 150 mm (12.2 in x 4.7 in x 5.9 in)
Power	max. 3 W	max. 15 W
Cable length	3 m (to Laser Unit)	5 m (to Controller)
Ambient temperature	+5 °C ... +40 °C (41 °F ... 104 °F)	
Storage temperature	-10 °C ... +65 °C (14 °F ... 149 °F)	
Relative humidity	max. 80 %, non-condensing	
Housing protection	IP-50 standard	
Compatibility	OFV-5000, OFV-2500[1] Series Vibrometer Controllers	

[1] When operating the OFV-534 Sensor Head with the OFV-2510 Controller, the signal level display on the sensor is not available.

Compliance with Standards	
Laser safety	IEC/EN 60825-1 (CFR 1040.10, CFR 1040.11)
Electrical safety	IEC/EN 61010-1
EMC	IEC/EN 61326

Options & Accessories	
Camera Options	OFV-A-534-CAM (NTSC output); OFV-A-534-CAP (PAL output)
Microscope Objectives	VIB-A-10xLENS (3 µm laser spot at 33.5 mm stand-off distance) VIB-A-20xLENS (1.5 µm laser spot at 20 mm stand-off distance) Use option OFV-A-534-CAM/CAP for viewing and displaying the image of the test object.

For more information please visit our website **www.polytec.com/usa/vibrometers** or contact your local Polytec sales/application engineer.



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