• **The ShaH-3020 - industrial Shack-Hartman wavefront sensor is intended for a wide range of applications including fast and precise quality control of optical elements, airflow analysis, measurement of laser beam parameters, etc.**

• **A special high-precision algorithm for locating hartmann image spots centers provides very accurate measurements even in difficult viewing conditions.**

• **The SDK (C++) allows to operate all functions of the sensor and to achieve easy integration with user software.**

• **The ShaH-3020 utilize precision telescopic system specially designed for wavefront measurments. System is mounted at tip-tilt platform which comprises two rotation axes conjugated with the input aperture.**
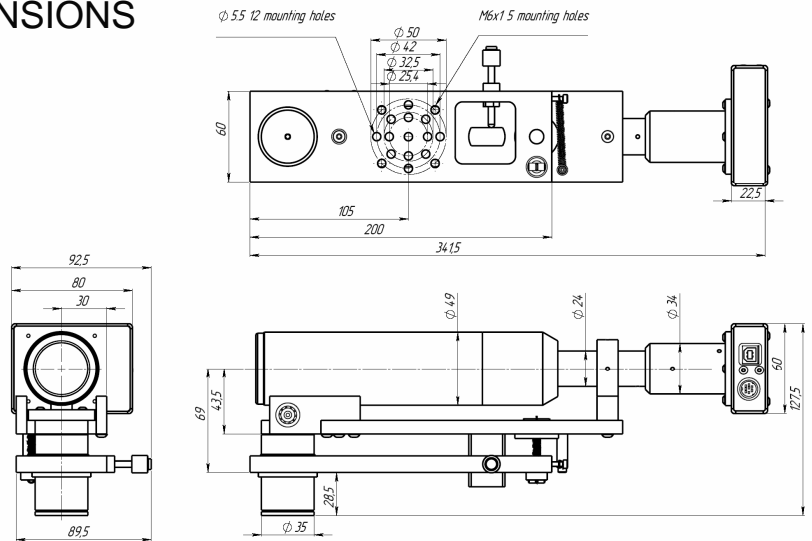
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WaveFront Sensor ShaH-3020

TECHNICAL SPECIFICATIONS

Aperture diameter	30 mm
Spatial resolution	750 µm
Number of points for analysis	1500
Maximum tilt normal/extended mode	±5/15 mrad
Minimum curvature	±3 m
Repeatability RMS	0.4 nm
Absolute accuracy RMS	$\lambda/100$ *
Relative accuracy RMS (at maximum angular source size <2 mrad)	$\lambda/1800$
Relative measurement accuracy P-V (within 90% of input aperture)	$\lambda/450$
Tilt measurement sensitivity	0.05 µrad
Curvature measurement sensitivity	150 km
Acquisition frequency normal/binning mode	20/60 Hz
Processing frequency	up to 60 Hz
Hartmann image acquisition	8/10 bit
Working wavelength	350-1100 nm
Calibrated waveband	200 nm
Maximal exposure (at wavelength 550 nm)	0.5 nJ/cm^2
Working temperature	from 0 to +40 ˚C
Weight	1.85 kg

* Better accuracy available upon request

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WaveFront Sensor ShaH-3020

Dimensions	342x128x93 mm
Interface/power supply	USB-2
Synchronization connector	Mini DIN
Operating system	Windows 2000/XP/Vista/7/8 (32/64-bit)
Output data	• Sequence of raw hartmann images • Spot shift map • Wavefront aberration map (3D plot, 2D projection, synthesized interferogram, up to 55 Zernike polynomials) • Defocus/Curvature/Astigmatism • PSF (point spread function) • MTF (modulation transfer function) • Strehl ratio • M2 factor • Gauss-Hermite modes • Turbulence parameters C_n^2, R_0 *and other*

DIMENSIONS

SPECTRAL RESPONSIVITY

Wavelength, nm

Part Number:
VC.SHAH-30-0.8-15-20