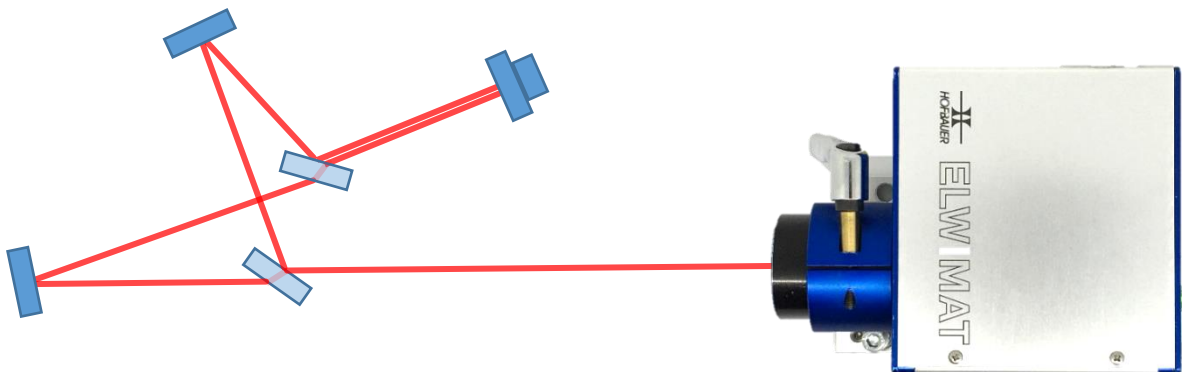


OPTIK · MESS- UND PRÜFTECHNIK
 VERTRIEB · BERATUNG · TRAINING



ELWIMAT®-VFS 4000

Adjust beam position precisely in position and direction Laser and instrument building now made easy

The ELWIMAT®-VFS based on the "vignetting field stop" method is a compact measuring device with a patented method for angle and position measurement. The opto-electronic evaluation together with the corresponding optical reflectors make it possible to determine the measurement of angles in the range of arc sec and the lateral position deviations in the range of Micrometers simultaneously in one measurement setup.



Features

- Completely new measuring principle for simultaneous 4 DoF measurements
- Angle measurement in 2 dimensions <1 Wsec
- Position measurement in 2 dimensions <1 μm
- Practically no restriction in measuring range and working distance
- Intuitive software under WINDOWS or LINUX
- Real-time capability with hardware trigger option
- Integration into existing measurement architectures/ measurement systems through IP interface
- Prepared for Industry 4.0 use

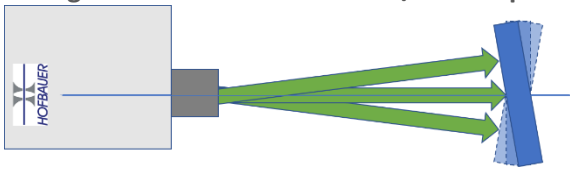


Applications

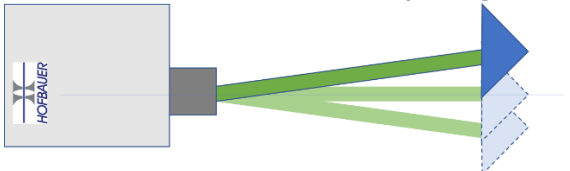
- Construction and adjustment of optical axes
- Adjustment of opto-mechanical components
- Adjust mirrors, beam splitters, prisms and lenses
- Adjustment on microscopes and optical assemblies
- Assembly and adjustment of laser mirrors
- Angle measurement on optical/ mechanical assemblies
- Pre-adjustment / adjustment of laser resonators
- Passive Adjustment of laser resonators
- Adjustment of laser systems

Applications for adjusting optical axes

1. Angle measurement on mirror/ beam splitter



2. Position measurement with tripel e.g. lens mount



3. Optical axis of a lens in transmission

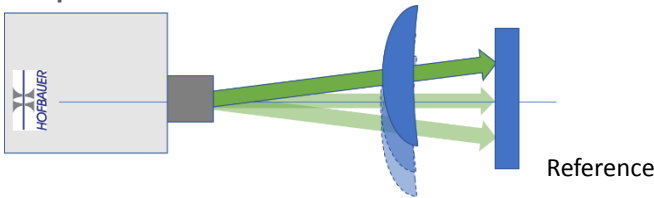


Fig.: Angular measurement with plane mirror



Fig.: Position measurement with triple reflector or lens

Tolerance fields with color change

Tolerance fields can be defined and displayed in the live image. Numerical values show “signal colors” green or red, depending on conformity.

Intelligent and intuitive software with process flow control

A software module offers interfaces such as RS232, USB 3.0, TCP-IP. It allows direct access to the data acquisition for connection to your own laboratory environment. Production-related applications use apps with process flows.

Equipment We offer suitable reflectors for your application for the sensors.

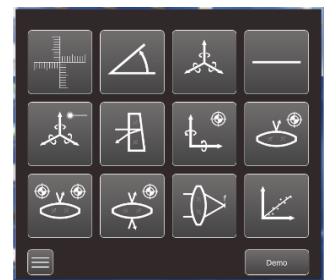


Fig: Intuitive Software with Touch operation

Technical Data

Brennweite - F-No.	35-4,8	46-4,8	90-6,8	140-8	200-10	300-15
No. Measurement Axis: Angle/ Pos.	2/2	2/2	2/2	2/2	2/2	2/2
Measurement Range $2w^{1)}/ °$	10,5°	6,4°	3,2°	2,2°	1,5°	1,0°
Resolution (advised) ^{2)/ wsec}	0,3"	0,2"	0,1"	0,1"	0,05"	0,05"
Reproducibility $Rw^{2)/ wsec}$	0,4"	0,3"	0,15"	0,12"	0,1"	0,1"
Messbereich Position $2x^{1)/ mm}$	20+100/m	20+70/m	20+60/m	20+40/m	20+30/m	20+20/m
Resolution Pos. (advised) ^{2,3)/ μm}	0,1	0,1	0,1	0,1	0,1	0,1
Reproducibility $Rx^{2,3)/ μm}$	0,4+5/m	0,4+2,5/m	0,4+1,5/m	0,4+1/m	0,4+0,6/m	0,2+0,2/m
Free Aperture	7,3	9,6	13	20	20	20
min. Ø of reflector ^{3)/ mm}	27,5	30	33	37	40	40
min. Ø of reflector / mm	8	10	14	21	21	21
Gewicht AK-Sensor/ kg	0,7	0,7	0,7	0,8	0,9	1
Abmessungen AK-Sensor	$∅ 40 f8; 107 \times 62 \times 110 \text{ mm}^3$					
Schnittstellen/ Protokoll	USB 3.0, TCP-IP / JSON					
Lieferumfang	ELWIMAT-Sensor, Sensor cable, Software ELWISOFT-Base					
Genauigkeit, Linearität	$< 1 \% \text{ of read out value} + 2R$					
Best. Nr.	802 100	802 101	802 102	802 103	802 104	802 105
Lieferumfang	ELWIMAT-Sensor, Sensor cable, rugged Touch-Modul with integrated Mapping File					
Genauigkeit, Linearität ⁴⁾	$< 0,1 \% \text{ of read out value} + 2R$					
Best. Nr.	802 300	802 301	802 302	802 303	802 304	802 305

1) X-Direction, Y-Direction = 0,75*X, Working distance $s > 3 f'$ 2) Software ELWISOFT-Base 3) Working distance $s = 3 f'$ 4) with Compensation (Mapping-File)