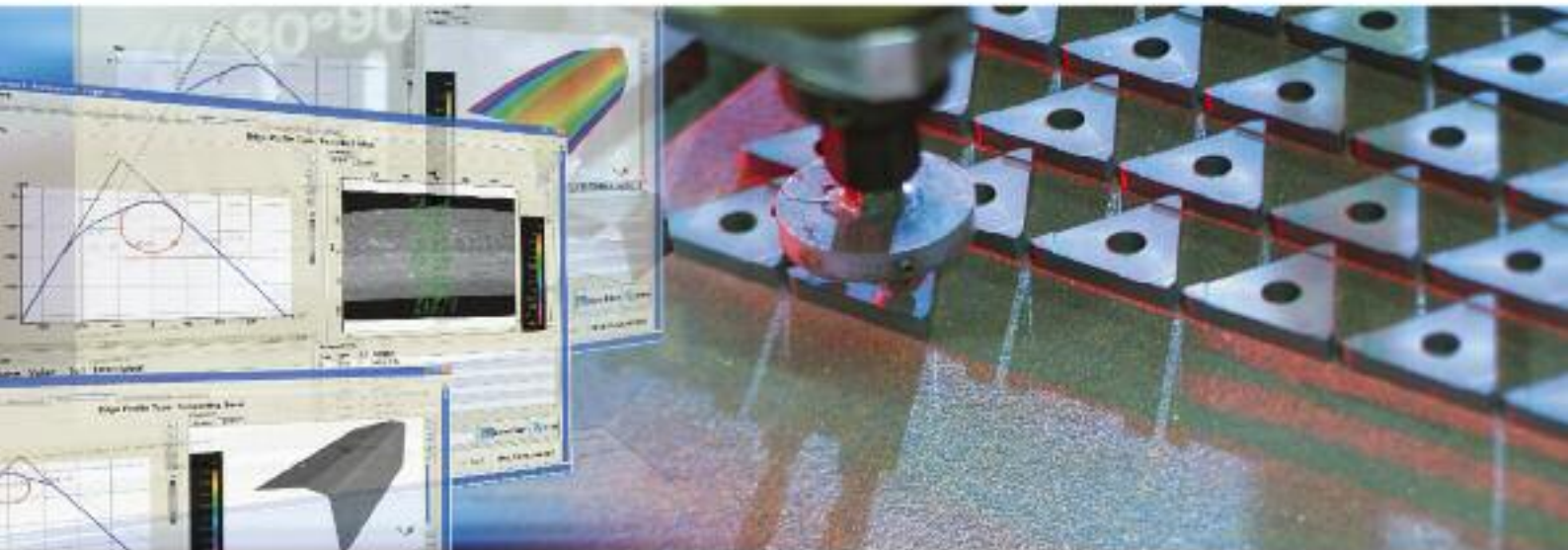


Optical high resolution cutting tool measurement in production



**Fewer rejects.
Improved tool quality.
Increased manufacturing efficiency.**

Measure form, chipping and rounded edge of inserts fully automatically!

The edge

Measurement of

- also smallest radii in high resolution
- wedge, chip, and clearance angle
- chipping, and alternatively roughness
- supporting, and negative bevel

The benefits

The EdgeMaster

- does not require enclosure
- is very resistant to extraneous light, vibrations, and variation in temperature
- delivers results automatically
- provides measurements within 30 seconds
- includes comprehensive print- and data export options
- measures over large scan heights

The technology

Focus-Variation

- is an area based, non-contact measurement technique for quality assurance in the lab and in production
- measures accordant to DIN ISO 1832 and DIN 6581
- achieves more than 1 Mio. 3D measurement points



TECHNICAL SPECIFICATION

General Specification

Measuring principle	non-contact, optical, 3 dimensional, based on Focus-Variation
Objectives	5x, 10x, 20x, 50x, 100x, motorized nosepiece (optional)
Vertical travel range	100mm
Manual XY adjustment	25x25mm
Maintenance	maintenance free
Weight measurement system	55 kg
Weight electronic	40 kg
Temperature range	possible: 5° - 40° C
Dimensions measurement system	320 x 670 x 500 (in mm WxHxD)
Dimensions electronic	540 x 360 x 682 (in mm WxHxD)
Power supply	900W; 110-230V~, 50-60 Hz

Specimen

Specimen surface texture	Surface topography Ra above 10-15nm with a Lc value of 2µm
Sample preparation	none
Specimen grip	Insert Grip, Advanced Insert Grip, Rotation Grip

Objectives

Objective		5x	10x	20x	50x	100x
Vertical resolution	nm	410	100	50	20	10
Optical lateral resolution	µm	2.2	1.1	0.8	0.6	0.4
Field of view X	µm	2858	1429	715	286	143
Field of view Y	µm	2175	1088	544	218	109

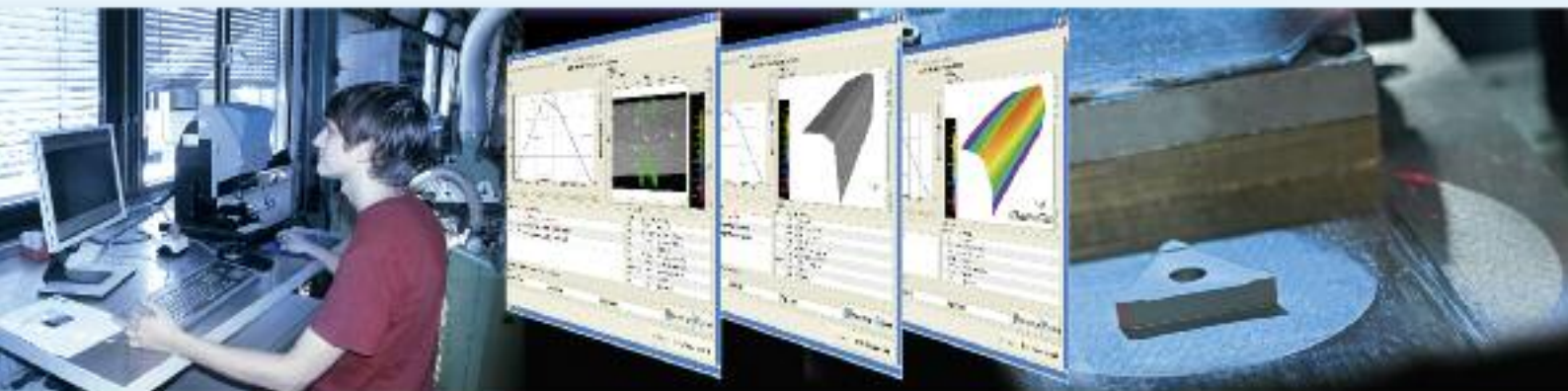
Application Specific Limits

Objective		5x	10x	20x	50x	100x
Min. measurable radius	µm	10	8	5	2	1
Min. measurable cutting angle	°	20	20	20	20	20
Repeatability of radius (+)	%	0.5-5	0.5-5	0.5-5	0.5-10	1-10
Repeatability of angle	%	0.1-0.5	0.1-0.5	0.1-0.5	0.1-0.5	0.1-0.5
Measurement time	sec	30	30	45	45	50

(+) depending on the quality of the edge radius

Software

Automatic measurements	Fully automatic measurement of radius, clearance angle, cutting angle, chip angle, a, b, K, supporting bevel, negative bevel, basket arch, chipping along the edge, detection and measurement of outbreaks;
Additional measurements	ISO conform profile-form-measurement, profile-roughness-measurement (Ra,...), surface-texture-measurement (Sa,...fractal dimension,...), target/actual comparison to CAD or reference datasets (optional)
Database	Intuitive graphical database
Measurement report	Automatic reporting of measurement results with graphical visualization



By courtesy of Ceratizit Austria

Alicona Imaging GmbH
Austria, Teslastraße 8
A-8074 Grambach/Graz
phone: +43 316 4000-700
fax: +43 316 4000-711
e-mail: info@aliconona.com