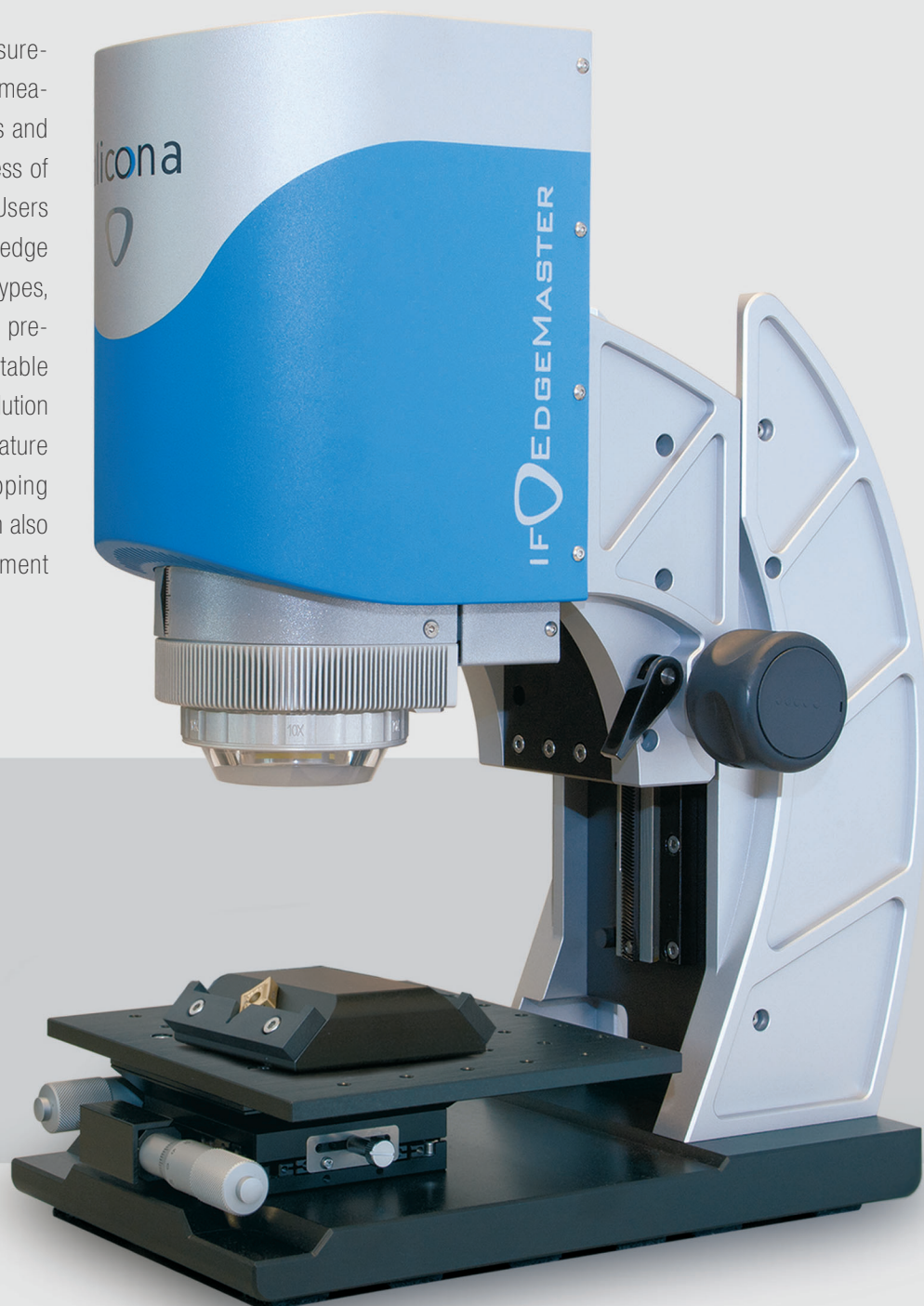


# EdgeMaster

## Automatic cutting edge measurement in production

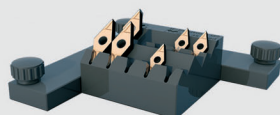
The EdgeMaster is an optical 3D measurement device for automatic cutting edge measurement. Edges of inserts, drills, millers and other round tools are measured regardless of type, size, material, or surface finish. Users measure radii  $>2\mu\text{m}$  as well as rake, wedge and clearance angle of tools. Different types, including both waterfall and trumpet, are precisely measured. Traceable and repeatable results are delivered in high vertical resolution even at vibrations, variations in temperature and ambient light. In addition to chipping measurement, the high vertical resolution also enables traceable roughness measurement on the rake face.



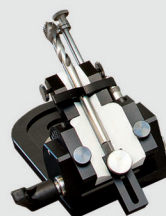
RotationGrip



AdvancedInsertGrip



InsertGrip G2



ToolGrip

## GENERAL SPECIFICATIONS

<b>Positioning volume (X x Y x Z)</b>	RL objectives: man.: 25 mm x 25 mm x 155 mm (Z: 25 mm mot., 130 mm man.) = 96875 mm <sup>3</sup> SXRL/AXRL objectives: man.: 25 mm x 25 mm x 120 mm (Z: 25 mm mot., 95 mm man.) = 75000mm <sup>3</sup>
<b>Max. specimen weight</b>	4 kg; more on request

## OBJECTIVE SPECIFIC FEATURES

Objective magnification (*)		10x	20x	50x	2xSX	5xAX	10xAX	20xAX	50xSX
<b>Working distance</b>	mm	17.5	16	10.1	34	34	33.5	20	13
<b>Lateral measurement area (X,Y) (X x Y)</b>	mm mm <sup>2</sup>	2 4	1 1	0.4 0.16	10 100	3.61 13.03	2 4	1 1	0.4 0.16
<b>Measurement point distance</b>	µm	1	0.5	0.2	5	2	1	0.5	0.2
<b>Measurement noise</b>	nm	40	20	10	1240	165	45	25	15
<b>Vertical resolution</b>	nm	100	50	20	3500	460	130	70	45
<b>Vertical measurement range</b>	mm	16	15	9	25	25	25	19	12
<b>Accessibility</b>	°	31	29	19	40	51	51	39	26

(\*) Objectives with longer working distance available upon request

## RESOLUTION AND APPLICATION SPECIFICATIONS

Objective magnification		10x	20x	50x	2xSX	5xAX	10xAX	20xAX	50xSX
<b>Min. measurable radius</b>	µm	5	3	2	20	10	5	3	2
<b>Min. measurable wedge angle</b>	°	20							
<b>Min. measurable roughness (Ra)</b>	µm	0.3	0.15	0.08	n.a.	n.a.	0.45	0.25	0.15
<b>Min. measurable roughness (Sa)</b>	µm	0.15	0.075	0.05	n.a.	n.a.	0.25	0.1	0.08
<b>Max. bevel length</b>	µm	800	400	160	4000	2000	800	400	160
<b>Max. measurable slope angle</b>	°	87							

## ACCURACY

<b>Profile roughness</b>	Ra = 0.5 µm	U = 0.04 µm, σ = 0.002 µm
<b>Area roughness</b>	Sa = 0.5 µm	U = 0.03 µm, σ = 0.002 µm
<b>Wedge angle</b>	β = 70 ° - 110 °	U = 0.15 °, σ = 0.02 °
<b>Edge radius</b>	R = 5 µm - 20 µm R > 20 µm	U = 1.5 µm, σ = 0.15 µm U = 2 µm, σ = 0.3 µm