

## OERLIKON UNIVERSAL SPIRAL BEVEL GEAR CUTTING MACHINE C 40 U/C 60 U

This model was developed primarily for the generating of spiral bevel gears with the Klingelberg ZYKLO-PALLOID® method on the basis of the serial machines C 40 and C 60. This method focuses on the simple and reliable production of spiral bevel gears using only a limited number of tooling throughout the range of application of the machines.

Contact pattern formation can be predetermined, thus no time consuming contact pattern developments are required. Both machines have been designed for conventional soft cutting as well as for finish cutting after case hardening using the HPG-S method (hard skiving) under consideration of appropriate cutting tools.

Suitable cutter heads and blades fitting the range of application of the machine are available. The achievable results in terms of economical production and precision of the finished components comply with today's high standards in every respect.

The blades can be sharpened on a clamping fixture SM 20-5 which is intended for use on an existing surface grinding machine.



### AT A GLANCE

- 6-axis CNC machine for high-efficient bevel gear cutting
- Tried-and-tested axis concept for compact design
- Universal tool system provides maximum flexibility
- Short retooling times thanks to ergonomic machine design
- Unrivalled gearing and surface quality
- Energy-efficient (e<sup>2</sup>)



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**RANGE OF APPLICATION**

RANGE OF APPLICATION	C 40 U		C 60 U	
	CONTINUOUS INDEXING	SINGLE INDEXING	CONTINUOUS INDEXING	SINGLE INDEXING
Workpiece data				
Workpiece diameter (max.)	Ø 400 mm	Ø 425 mm	Ø 600 mm	
Normal module range (min. – max.)	1 – 8 mm		2.4 – 13 mm	upon request
Tooth width (max.)	80 mm		100 mm	
Pitch cone angle range	0° – 90°			
Smallest/largest number of teeth	6 – 180			
Smallest/largest gear ratio	1:1/1:10			
Axial offset	± 60 mm			
Spiral angle range	0° – ca. 60°			
Tool data				
Cutter head diameter	-	5" – 12"	-	7.5" – 14"
Cutter head radii/number of starts of the Zyklo-Palloid® universal- and HPG-S cutter heads	30/3; 55/5; 75/5; 100/5; 135/5 mm	-	100/5; 135/5; 170/5 mm	-
Cutter head spindle (A axis)				
Cutter head spindle speed (max.)	540 rpm		100 rpm	
Workpiece spindle (B axis)				
Bore hole of the spindle mount	Ø 160 mm		Ø 200 mm	
Workpiece spindle opening	Ø 150/300 mm long		Ø 190/650 mm long	
Total connected load	60 kVA		80 kVA	
Machine dimensions (L x W x H) approx.	5,900 x 2,500 x 2,450 mm		6,200 x 5,050 x 3,200 mm	
Net weight approx.	15,500 kg		37,000 kg	

The above-mentioned maximum values were determined for industry-typical gear units.  
Further testing may be required to determine whether maximum values can be combined.

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