



*Tool life*  
**+417%**



# SPECIAL SOLUTIONS

*developed for machining with*  
***Makino Mag3***

**Mega** | Alu Power   **Mega** | Alu   **Mega** | Alu LFF

*part of* **Mega** *tool*

# AEROSPACE INDUSTRY OUR SOLUTION



The **MegaTool end mills** for **Aluminium** machining have been developed to meet with the needs of aerospace industry customers, **whose requirement is to machine faster and in a safer way.**

Aerospace workpieces are most commonly machined with waterline methods, taking several small steps, **from 3 to 5 mm each pass.**

Such strategy is used both for roughing and finishing operations but it is very time consuming.

**Bearing in mind what the customers' target is, we started thinking of a new approach in machining and this resulted in a new strategy optimizing the process.**

## HERE IS OUR SOLUTION:



Mega | Alu  
Power

Mega | Alu

Mega | Alu  
LFF

# TOOL LIFE\*

*Up to 1,251 min.  
~ 21 hours*



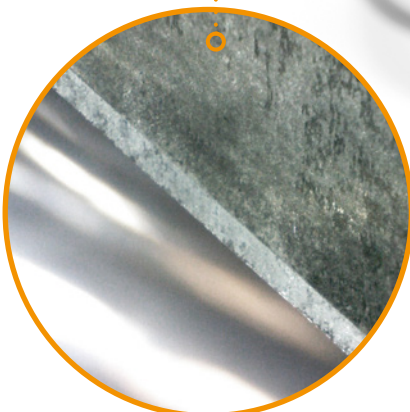
**HEAD**  
*After 1,251 minutes  
of contact*



**GASH RADIUS**  
*After 1,251 minutes  
of contact*



**RADIUS**  
*After 1,251 minutes  
of contact*



**DIAMETER**  
*After 1,251 minutes  
of contact*



**\* AFTER REGRINDING,  
TOOL LIFE IS EXACTLY THE SAME**

# MAKINO MAG3

## HORIZONTAL MACHINING 5 AXIS



## TECHNICAL DATA

Pallet	3,000 x 1,500 mm
X	3,000 mm
Y	1,800 mm
Z	1,000 mm
Aaxis	± 110°
Baxis	None
Caxis	360°
Spindle RPM	33.000 rpm - 120 kW (with Internal coolant through the spindle)
Rapid Traverse	25,400 mm/min
Cutting Feedrate	25,400 mm/min
Maximum Workpiece	3,000 x 1,800 x 500 mm
Maximum Payload	3,000 kg
ATC Capacity (opt)	60 (120)
Tool to Tool	10 sec
Chip to Chip	22 sec
Maximum Tool Length	305 mm
Maximum Tool Diameter	90 mm
Maximum Tool Weight	8 kg

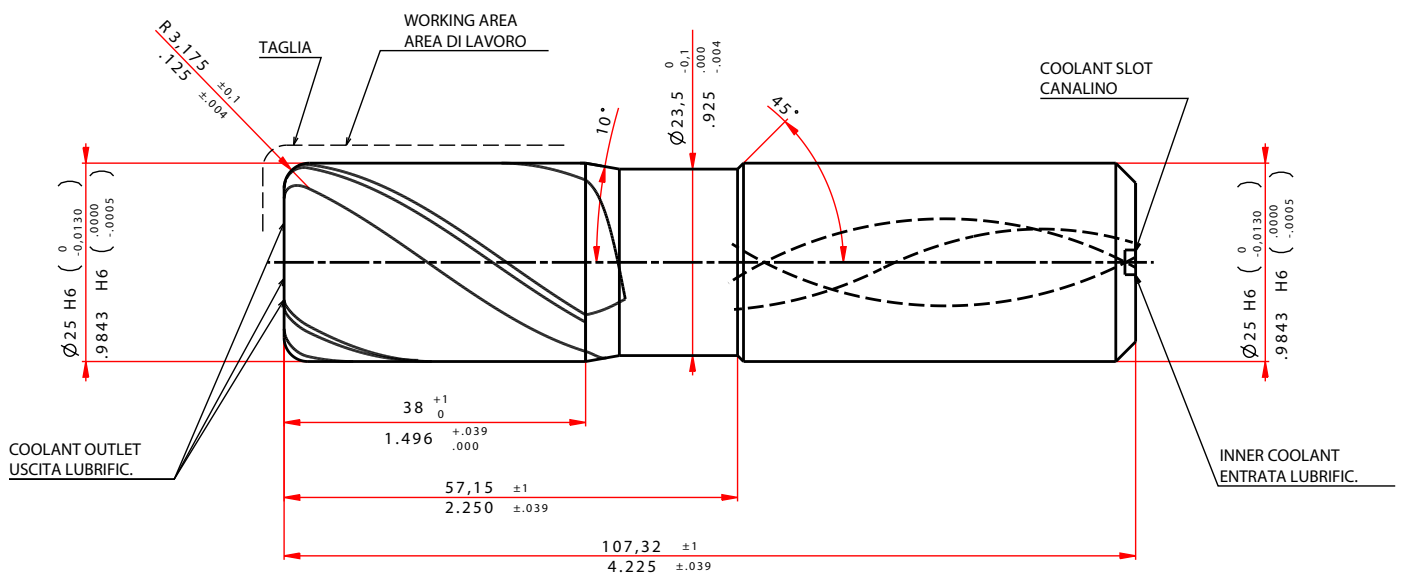
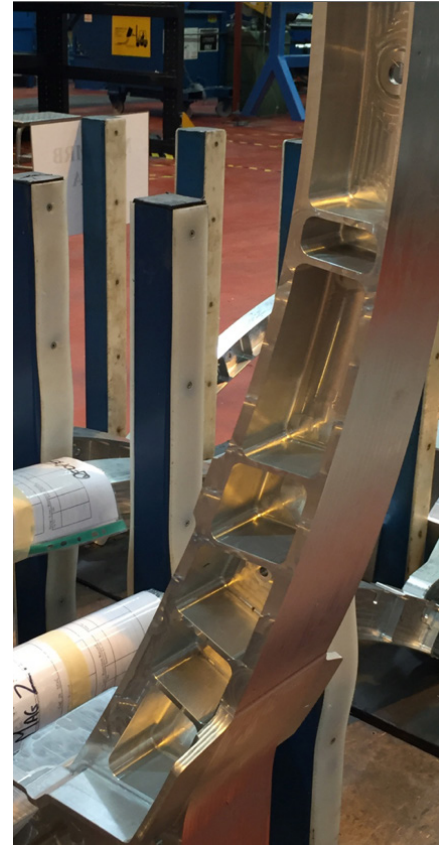
# MACHINED WORKPIECE

Material: AL7075



## CLAMPING: HSK FM80

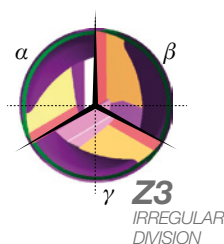
Balanced holder with balancing screws



## SPECIAL TOOLS (UOP MEGA ALU CONCEPT)

**Ø25 R3,1 2xØ IC (Internal Coolant)**

**MIRROR  
GRINDING**



*Tool life*  
**+417%**



**R**  
**TORIC RADIUS**

### TECHNICAL DATA

PARAMETERS	COMPETITOR	Mega Alu (Special)
Ø (diameter)	25	25
Z (teeth)	2	3
S (rpm)	33,000	32,000
F (mm/min)	16900	22680
$f_z$ (mm/tooth)	0,256	0.23
Max Vibration Level	5.0	3.8
$A_p$ (mm)	8	8
$A_e$ (mm)	25	25
Q	3380 cm <sup>3</sup> /min.	4536 cm <sup>3</sup> /min.
TOOL LIFE	300 min	1,251 min <b>+ 417%</b>



# OUR BEST SOLUTIONS



FOR THE MACHINING OF ALUMINIUM  
AND ALUMINIUM ALLOYS



**Mega** | Alu  
Power  
797ALUCB

**Mega** | Alu  
Power  
797ALUCBIC

**Mega** | Alu  
797ALU

**Mega** | Alu  
797ALUIC

**Mega** | Alu  
LFF  
797ALULFFIC

part of **MegaTool**



Mega | Alu  
Power

Mega | Alu

Mega | Alu  
LFF

part of Mega  
tool

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