MAXIVAL EVO® makes your machining process even more efficient

ACCIAIERIE VALBRUNA

High quality is our standard

MAXIVAL EVO®

THE TECHNICAL EVOLUTION IN THE MACHINING PERFORMANCE

The new generation of high machining stainless steel

WE ARE WHEREVER YOU NEED US TO BE

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Mills

ITALY: Vicenza, Bolzano

USA: Fort Wayne

CANADA: Welland

ITALY
Ancona
Bologna
Brescia
Milano
Parma
Torino
Treviso

EUROPE
Czech Republic
Denmark
Finland
France
Germany
Ireland
Nederland
Norway
Poland
Spain
Sweden
Switzerland
United Kingdom

AMERICA
Canada
Mexico
United States

ASIA - OCEANIA
Australia
Hong Kong
India
Malaysia
Turkey
UAE

AFRICA
South Africa

Valbruna, founded in 1925 and leader in the production of Stainless steel and Nickel alloys long products, is underpinned by long experience and a highly qualified customer service.

Vicenza plant, ITALY
(Total surface: 294.608 m²)

Bolzano plant, ITALY
(Total surface: 197.049 m²)

Fort Wayne plant, IN-USA
(Total surface: 248.356 m²)

Welland plant, ON-CANADA
(Total surface: 339.288 m²)

MAXIVAL EVO®

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The new generation of high machining stainless steel

The latest innovation introduced by Valbruna is MAXIVAL EVO®, a stainless steel product line of premium quality and improved machinability, obtained thanks to a metallurgical and technological EVOlution in order to meet the expectations of the most advanced machining equipment.

An innovative manufacturing process

A balanced chemical composition and a tailored steel melting practice allow MAXIVAL EVO® to match the most restrictive customers' expectations: as the previous generation these grades are Ca-Ti treated, characterized by a special steel making practice where the aim is a precise control of non-metallic inclusions which, thanks to their morphology and lubricating properties, allow to improve machinability. This results in lower tool wear and higher chip-breaking due to the formation of a layer between the tool and the chip.
In addition, for this new generation of stainless steel, we have further tailored the melting practice in order to achieve a different quantity and distribution of inclusions reaching significant results in terms of TOTAL COST SAVING for parts manufacturers.

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THE TECHNICAL EVOLUTION IN THE MACHINING PERFORMANCE

It has been optimized to achieve:

- IMPROVED CHIP BREAKABILITY
- IMPROVED FEED AND SPEED
- HIGHER PRODUCTIVITY
- LONGER TOOL LIFE
- LOWER SCRAP RATIO
- BETTER SURFACE FINISHING
- REDUCED MACHINE DOWNTIME

COST SAVING

Better chip breaking

The best results in terms of workability are then achieved when metallurgical characteristics are combined with material physical characteristics such as:

- TIGHT DIMENSIONAL TOLERANCES
- BETTER SURFACE FINISHING
- SUPERIOR STRAIGHTNESS
- END FACING AND CHAMFERED ENDS AS PER CUSTOMIZED DRAWING

Recent investments in automation aim to reduce the human error, in order to guarantee an advantage in terms of quality and efficiency of the production process.

MAXIVAL EVO® is available in the following Austenitic Stainless Steel grades:

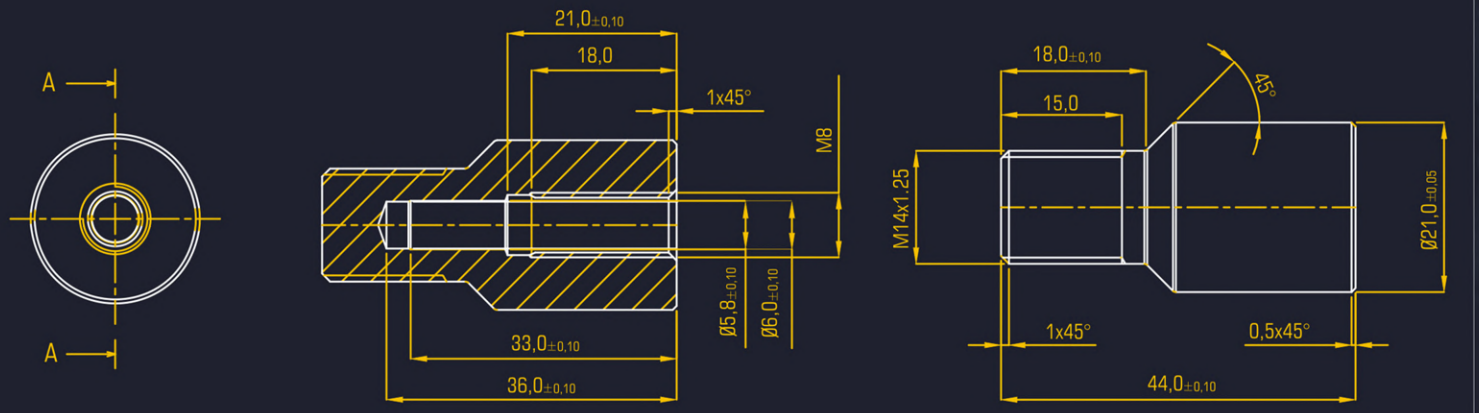
THE TECHNICAL EVOLUTION IN THE MACHINING PERFORMANCE

VALBRUNA GRADE FOR MAXIVAL EVO ®	AISI	W.N.	UNS	EN	STANDARD SPECIFICATIONS
MVAISLE	304/304L	1.4301/1.4307	S30400/S30403	X5CRNI18-10 X2CRNI18-9	EN 10088-3 ASTM A276
MVAPMLE	316/316L	1.4401/1.4404	S31600/S31603	X5CRNIMO17-12-2 X2CRNIMO17-12-2	EN 10088-3 ASTM A276
MV188HSE	303	1.4305	S30300	X8CRNIS18-9	EN 10088-3 ASTM A582

Continuous investments in R&D activities and new equipment have allowed Valbruna to develop MAXIVAL EVO®, the new generation of high machining stainless steel able to let our customer easily achieve high targets in the machinability performance.

An example from the field with our MAXIVAL EVO® 304L

Test has been performed in collaboration with prime turning machine builder and tool manufacturer such as Tajmac Group and Ceratizit Group.



Sizes to be intended as in mm

Production cycle

Machining Operation	Tools
Rough turning ø 17mm (4 steps)	POSITIVE INSERT VCMT 160408 ISO GRADE M25
Drilling ø 7.5	HIGH-PERFORMANCE DRILL, SOLID CARBIDE TWIST DRILL - Ti GEOMETRY
Turning ø 21	HIGH PRECISION FINISHING POSITIVE INSERT IN "E" TOLERANCE - DCET 11T304
Drilling ø 5.8	HIGH-PERFORMANCE DRILL, SOLID CARBIDE TWIST DRILL - Ti GEOMETRY
Turning ø 16	HIGH PRECISION FINISHING POSITIVE INSERT IN "E" TOLERANCE - VCET 110304
Spot drilling	SOLID CARBIDE SPOT DRILL 90° Ø 16 COATED
Rough turning pre cutting	POSITIVE INSERT VCMT 160408 ISO M25
Reaming ø 6	HIGH-PERFORMANCE CARBIDE REAMER - FULLMAX - VA GEOMETRY
Tapping M8	SOLID CARBIDE THREAD FORMER TAP M8 + I.C. - MOREX STYLE
Cutting	SPECIALLY DEVELOPED PARTING OFF GEOMETRY SX3 - M1
Turning ø 13.7	HIGH PRECISION FINISHING POSITIVE INSERT IN "E" TOLERANCE - VCET 110304
Threading M16 - 1,5	CARBIDE THREADING INSERTS, FULL PROFILE, TC16 – EXTERNAL THREAD 60°

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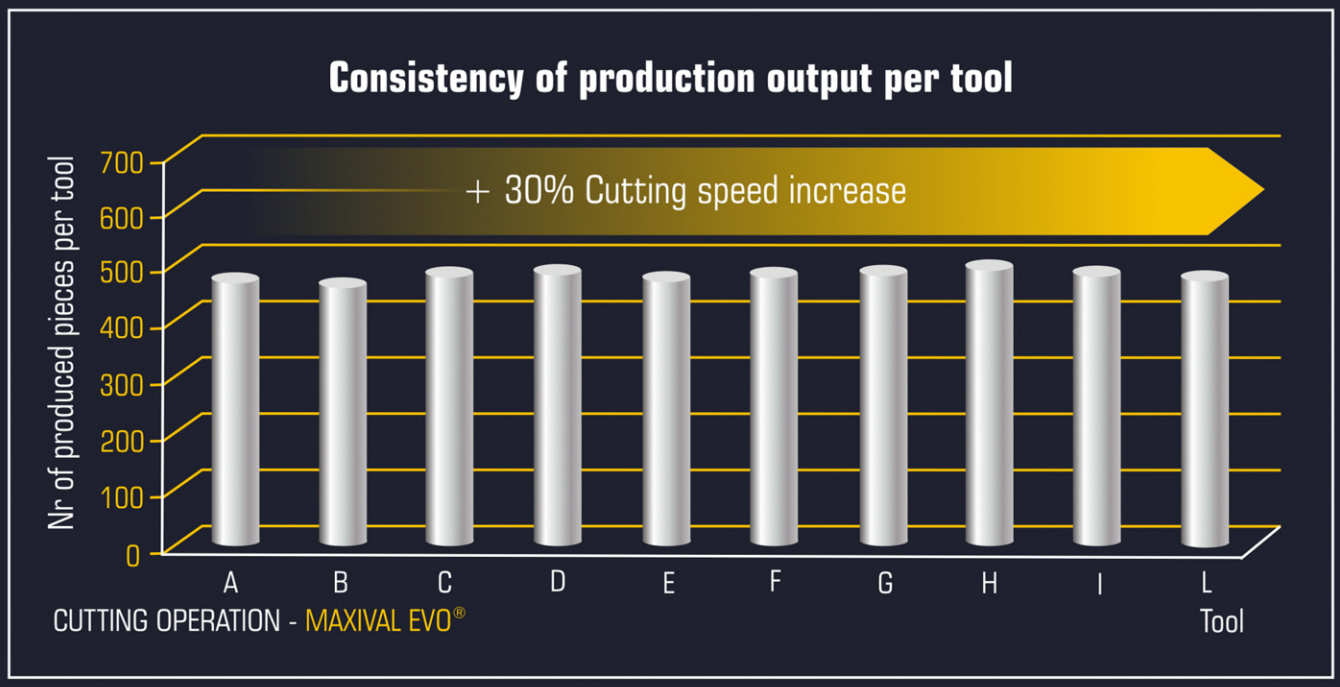
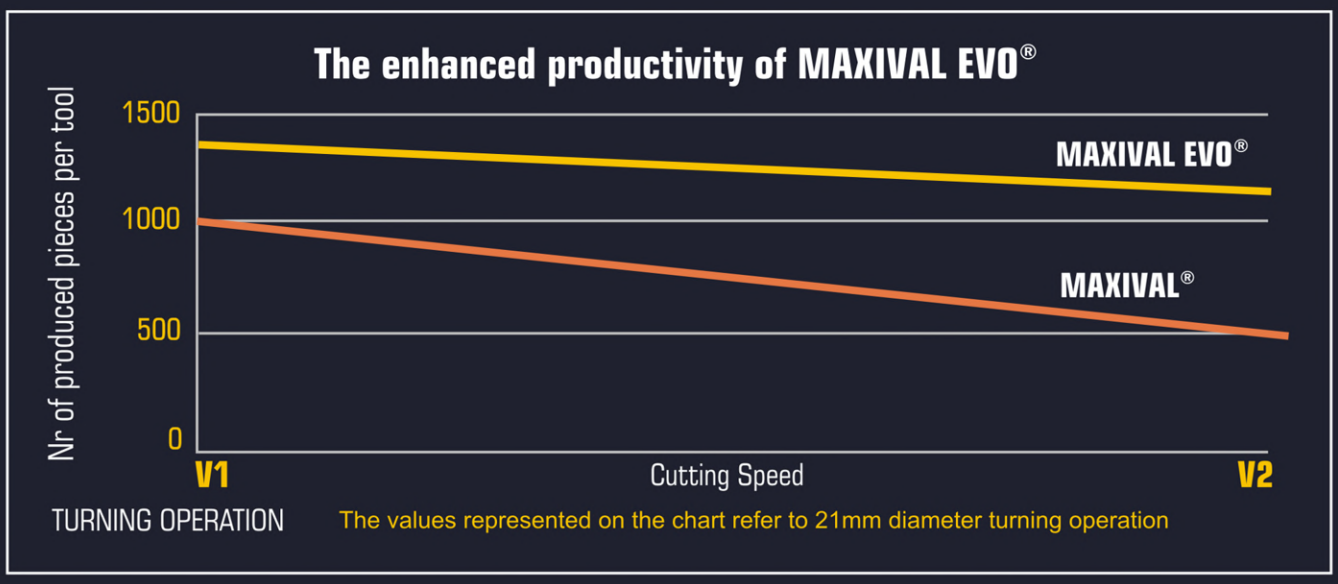


Progressively increasing the cutting speed from V1 to V2 up to +30%, the number of finished components obtained for single tool (A,B,C etc. in the graph) remains almost stable for MAXIVAL EVO®.
Moreover, the consistency of the performance makes it easier to calculate the time when the cutting edge needs to be replaced.
The repeatability of the production performance makes MAXIVAL EVO® ideal for serial production.



Based on same cutting speed, MAXIVAL EVO® grants a higher number of machined components per single tool.
A longer tool life then means reduced equipment stops and therefore an overall improved productivity.
Progressively increasing the cutting speed from V1 to V2 (+30%) the productivity per single tool decreases as expected but considerably less for MAXIVAL EVO®: at V2 the productivity is more than double compared to standard MAXIVAL® which represents already an high performance steel, and this gives an idea of why EVOlution is so significant.

Better Turning

Better Drilling

2021/01

Global links

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Speed up to test it & evolve with us!

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