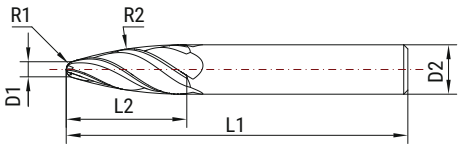
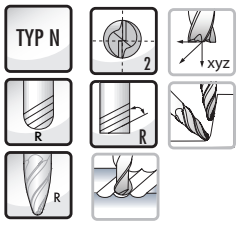
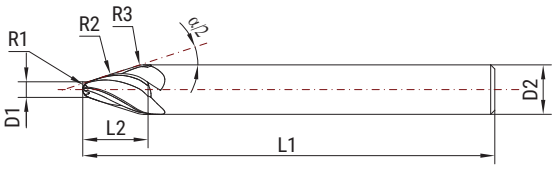
Solid carbide Barrel end mill

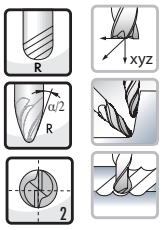




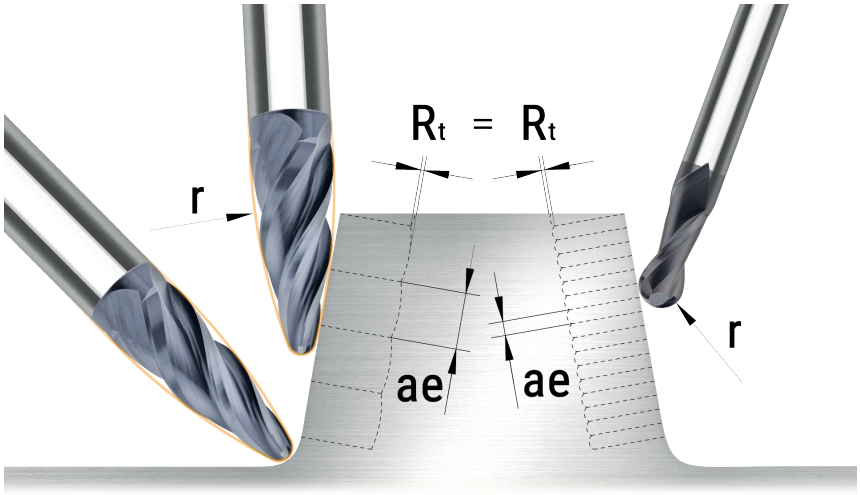
D1	D2 h6	L1	L2	R1	R2	Z
2,00	8,00	70	24	1	95	4
4,00	12,00	83	28	2	90	4
6,00	16,00	105	30	3	80	4

Solid carbide curve segment mill conical





D1	D2 h6	L1	L2	a/2	R1	R2	R3	ZNo.
2,00	8,00	75	10	18°	1	300	1	4
4,00	12,00	100	14	18°	2	450	2	4
6,00	16,00	120	18	18°	3	1200	3	4
6,00	16,00	120	12	28°	3	800	3	4
8,00	16,00	120	16	18°	4	1200	4	4
8,00	16,00	120	11	28°	4	800	4	4



r = Radius/Ball nose end mill

ae = Row Pitch

Rt = Theoretical Roughness

Reduction of workpiece costs & much shorter production times

based on the significant increase in the line spacing ae.

$$ae = 2 \times \sqrt{r^2 - (r - R_t)^2} \quad [mm]$$

$$R_t = r - \sqrt{r^2 - \left(\frac{ae}{2}\right)^2} \quad [mm]$$

$$\rightarrow R_t \times 1000 \quad [\mu m]$$

New production possibilities

*Freeform surface

*Semi-finishing and finishing of small

*shapes Undercuts

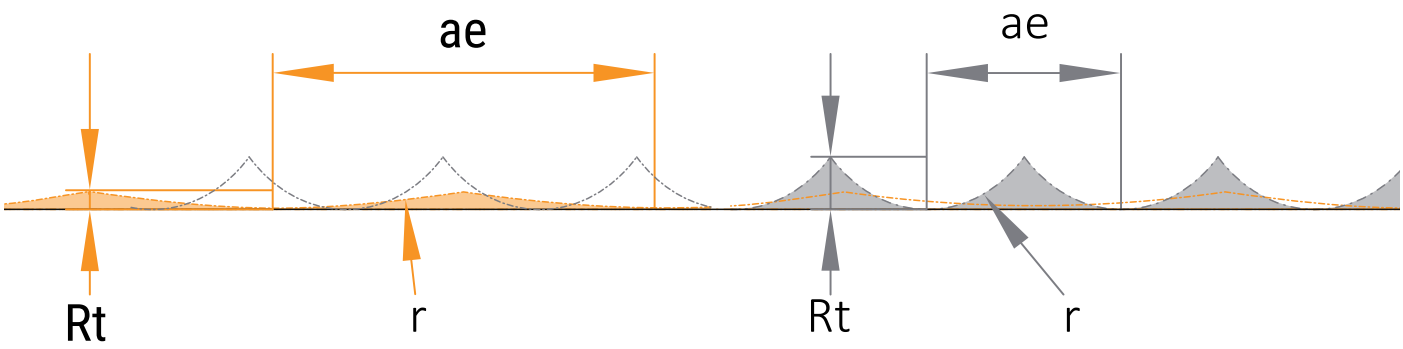
*Machining of small inner radius

*Variable setting angle possible

IMPROVEMENTS

BARRIL

BALL NOSE END MILL



The higher or flater overlap reduces the roughness.

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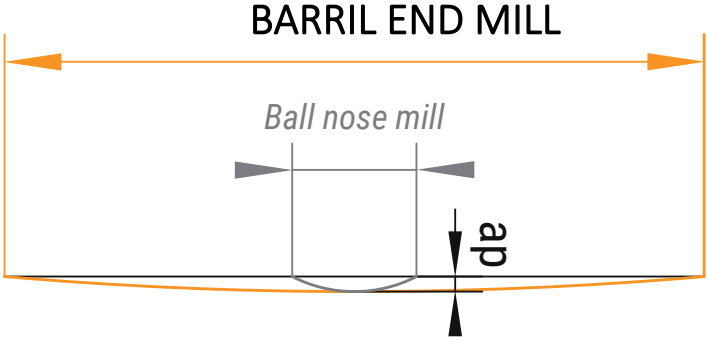
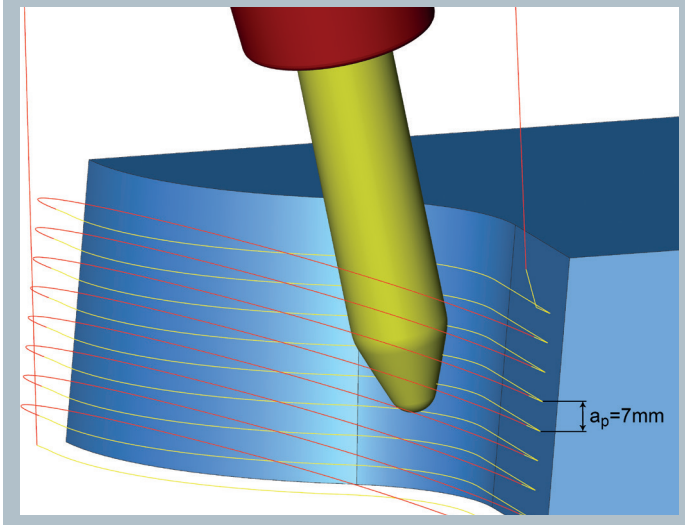


Due to the higher processing width no punctual wear occurs at the cutting edge.

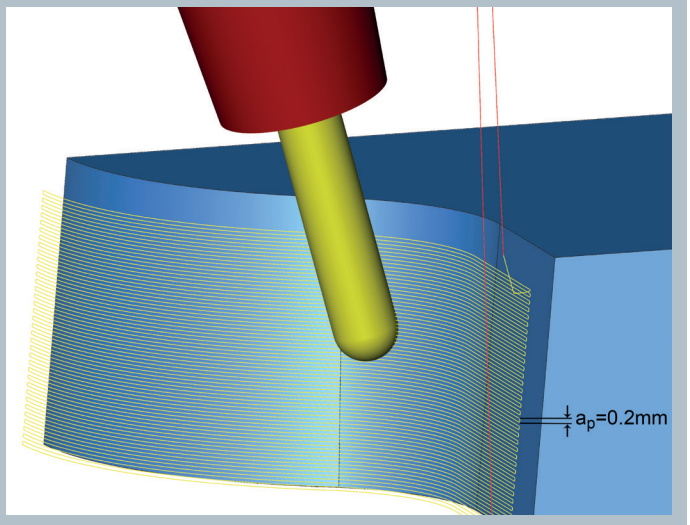
Innovative CAM strategies for finishing

Better Finishing

The innovative finishing strategies of the Barrel end mill Machining performance package are the perfect solution to utilize the potential of the special tool geometry. The large radius of the tools enables greater step-over distances and it optimizes surface finishes. Users can see time savings of up to 90%!



Large step-over distances: Reduced machining times (conical)



Small step-over distances: This extends machining times (ball nose end mill)

Simple Programming

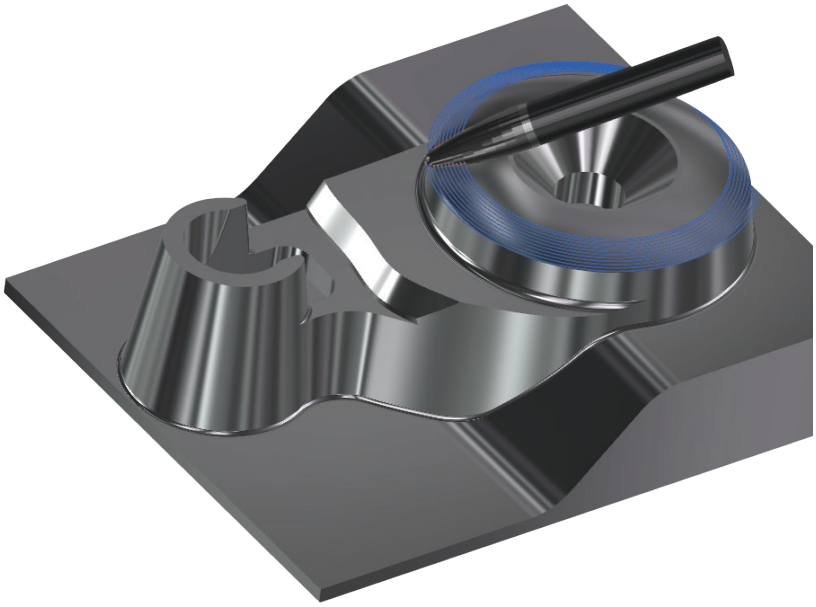
Operators need only click on the surfaces to be machined and the collision-free tool paths are automatically generated.

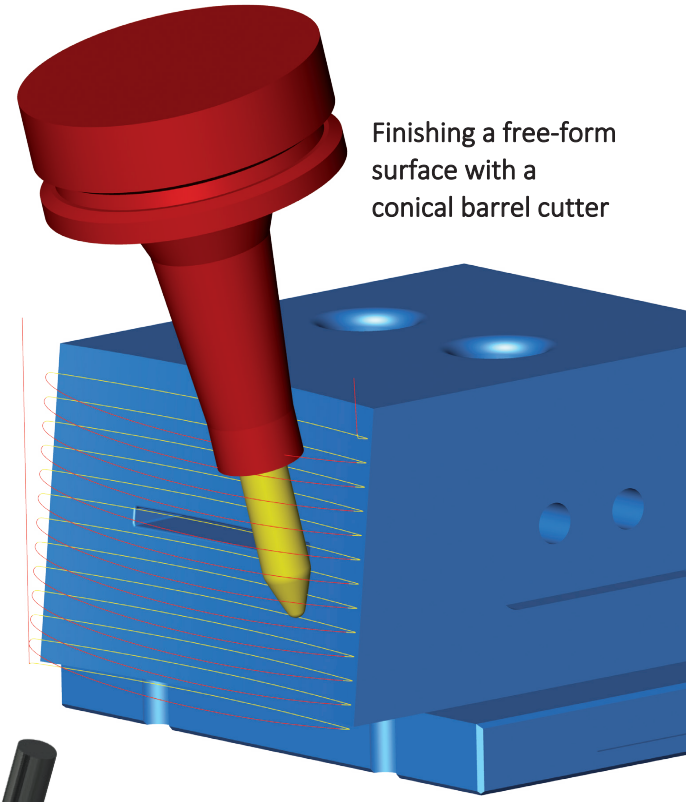
Unique Strategies

Powerful 5-axis strategies allow the highly efficient machining of planes and free-form surfaces. Intelligent automated functions ensure optimum tool orientation and positioning.

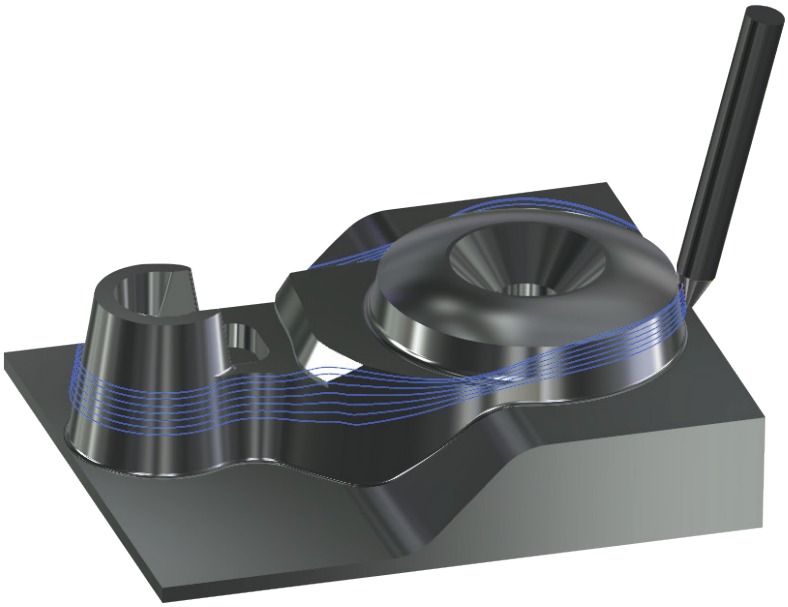
Benefits

Reduced production times:
Cycle time savings of up to 90%
Optimized surface finishes
Exceptional process stability
Wide range of applications: Mould & Die, Aerospace and Turbine Blades, Automotive, Impellers





Finishing a free-form surface with a conical barrel cutter



APPLICATIONS

General steels

General steels < 500 N/mm² (< 150 HB) General steels < 700 N/mm² (< 205 HB)

Tempering steel

Tempering steel < 850 N/mm² (< 25 HRC)
Tempering steel < 1000 N/mm² (< 32 HRC) Tempering steel < 1400 N/mm² (< 44 HRC)

Herdened steel

Hardened steel 45-55 HRC (1400-2000N/mm²)

Cast iron and cast iron alloys

Cast iron < 180HB
Malleable cast iron
Cast iron with nodular graphite

Non-ferrous metals, plastics, graphite

Aluminium long-chipping
Aluminium short-chipping
Aluminium alloyed < 8% Si
Cooper, brass, bronze, red brass plastics - thermoplaste

Rust and acid constant steels

Rostfreie Stähle - INOX < 700 N/mm² (< 205 HB)
Rostfreie Stähle - INOX > 700 N/mm² (> 205 HB)

Nuova C.U.M.E.T. Srl - Via Torino, 502
10032 Brandizzo (TO) ITALY
Tel: +39 011 917 95 14/15
Telefax: +39 011 917 95 55/02
www.nuovacumet.it •
info@nuovacumet.it

B.A. Machinery
Beijing
Tel: (86)-10-63777466/76
Telefax: (86)-10-63777486
www.nuovacumet.cn •
info@nuovacumet.cn

CUMET CZ s.r.o.
Cihlářská 299
46331 - Chrastava – Czech Republic
Tel: (420) 602232383
www.cumet.cz • cumet@cumet.cz