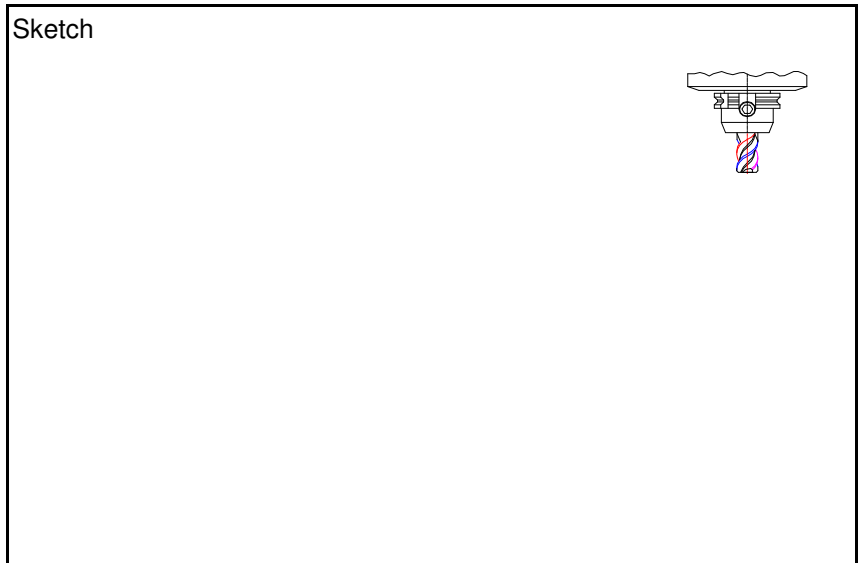


Machine	Haas VF4		
Spindle type	SK 40		
Max RPM	8.000		
Power Kw	15		
Cutter holder	Weldon		
Workpiece material	AlMg 4,5		
Hardness	Alu 51ST		
Application			
Side milling	<input type="checkbox"/>	Up-milling	<input type="checkbox"/>
Slotting	<input checked="" type="checkbox"/>	Down-milling	<input type="checkbox"/>
Profiling	<input type="checkbox"/>	Circular	<input type="checkbox"/>
Plunging	<input type="checkbox"/>		



Cutter supplier	
Cutter description	
Cutter diameter eff.	Ød mm
Number of teeth	z
Carbide grade	

Test 1	Test 2
<b>van Hoorn Carbide</b>	<b>Competitor</b>
VHRAW 3 120 078 12 15	
12	12
3	3
15	Not Coated

Cutting conditions	
Cutting speed	$V_c$ m/min
Revolution	n rpm
Feed per tooth	$f_z$ mm
Table feed	$V_f$ mm/min
Depth of cut	$a_p$ mm
Width of cut	$a_e$ mm
Length of cut	L mm
Chip removal rate	Q cm <sup>3</sup> /min
Coolant type	
Coolant pressure	Bar
Cutting time / comp	$T_{comp}$ min
Toollife	$T_{total}$ min
Power consumption	P Kw
Edge wear	$V_b$ mm

302	302
8.000	8.000
0,167	0,094
4.000	2.250
12	12
12	12
576,0	324,0
dry / air / minimum lub. / <b>emulsion</b>	dry / air / minimum lub. / <b>emulsion</b>
Internal External	Internal External

Remarks

Test 1; Started with cutting conditions similar like competitor. Optimized till cutting conditions according Test 1. Chip removal rate; more than 1,5 times Fette.

Test 2; Maximum cutting conditions for competitor endmill.