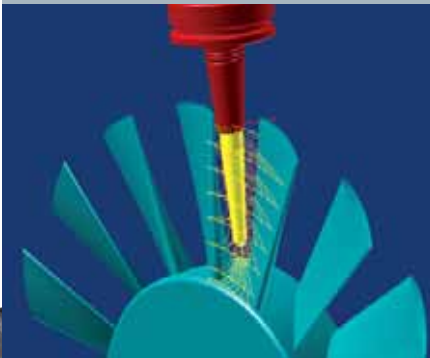


Multiblade milling with HWACHEON's M2 5AX

Very twisted and thin blades with narrow clearances place great demands on multiblade machining. The multi-blade package provided with *hyperMILL*® ensures user-friendly and reliable programming, minimum machine running times and a high level of machining precision.

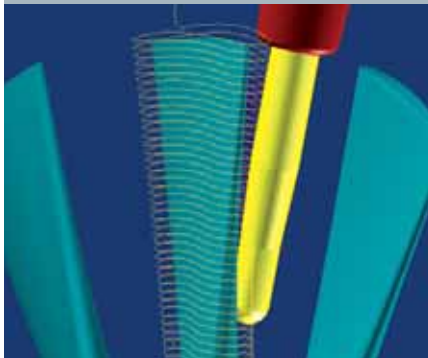
Multiblade roughing

With this roughing strategy, the blades are machined from blanks in a continual pocket-by-pocket process. Redundant movements are avoided.



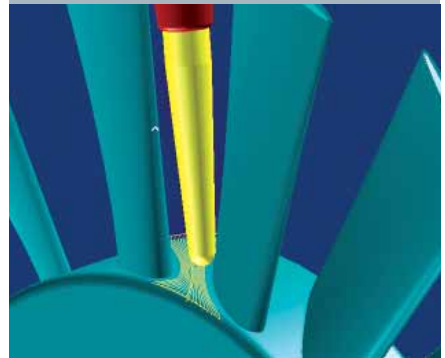
Multiblade finishing

Perfect surfaces are achieved thanks to continual spiral machining of the blades. The tool maintains point contact at all times.



Multiblade hub machining

Hubs are finished in a continual or partial path. Using the pocket option creates shorter tool paths.



Machine: M2 5AX

Main drive: motor spindle

RPM range: 20,000 min⁻¹

Power: 22/18.5 kW

Work area

Rapid machining feedrate X/Y/Z: 50 m/min

A/C: 8.3 / 33.3 min⁻¹

Traverse path X/Y/Z: 750/650/500 mm

A/C: +30 ~ -120° / 360°

NC rotary tilt table

Rotary table: diameter 500 mm

Workpiece weight: 300 kg

Max. workpiece size: diameter 600 x 432 mm

Controller: FANUC 18i-MB5

Workpiece: Multiblade

Dimension: diameter 386.6 mm, height 80 mm

Material: Al 7050



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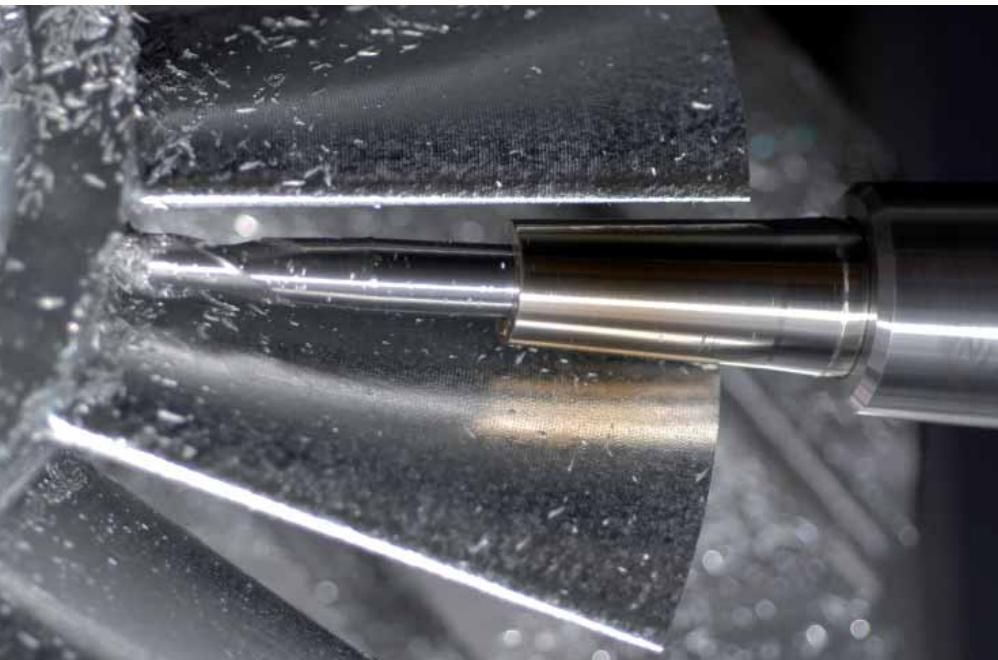
Internet www.hwacheon.com



The following tools are used for multiblade machining with the M2 5AX (left to right – R10 BEM, R6 BEM, R5 BEM):



Job step		Tool	Spindle RPM N (min ⁻¹)	Feed rate F (mm/min)	Stepover depth a _p (mm)	Machining time
Roughing		R10.0 ball mil	1.800	2.400	1,5	1h 30 min
		R6.0 ball mill	2.500	3.600	1,0	1h 4 min
Preliminary finishing	Blades hub	R5.0 ball mill	2.000	2.400	1,0	36 min
			3.000		1,0	15 min
Finishing	Blades hub	R5.0 ball mill	1.250 3.000	1.680	0,6	4h 30 min 45 min
Total						8h 40 min



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