Tool wear and breakage monitoring system – Aerospace application

Orbital drilling

Orbital drilling of large panels, component parts for the wings and the fuselage.

WattPilote provides a significant improvement in reliability and cycle time on all orbital drilling machines.

► Optimized drive speed time

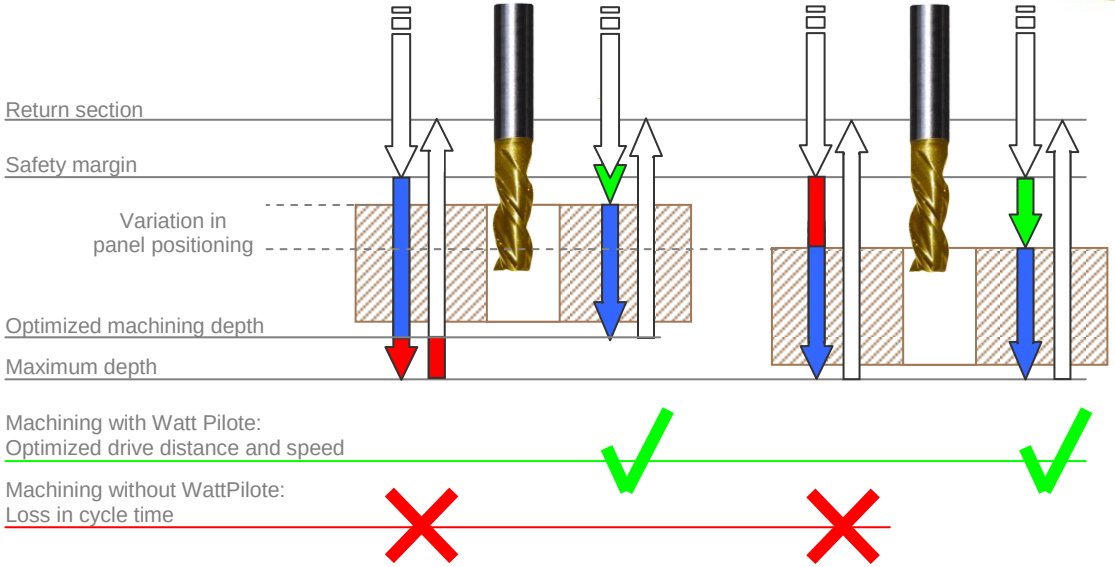
The exact position of the panel surface is unknown. Nevertheless, **WattPilote detects the moment of contact between the tool and the part.** The distance between the safety margin and the panel is traversed at drive speed, which is 2 to 3 times faster than the drilling speed.

► Optimized drilling time

WattPilote **detects the moment** of **complete drilling and stops the machining cycle immediately**: the drilling unit returns instantly and the next drilling cycle is started.

► Quality control

WattPilote ensures that all drilling operations are executed correctly.



Gain in time – Guaranteed Quality – Cost savings

Machining cycle time	9.43 s	7.07 s	9.43 s	7.82 s
Time saved	**25 %**		**17 %**	

Test conditions: Gain in cycle time according to variation in panel position

Panel depth: 10 mm | Safety margin: 1 mm | Positioning variation: 3 mm | Bore diameter: 0.5 mm

Drive: F = 300 mm/min | Work: F = 100 mm/min | Return: F = 1200 mm/min

WattPilote

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