M850V SERIES CNC CONTROL

HIGH QUALITY MACHINE PERFORMANCE WITH SMOOTHER SURFACE FINISHES AND BETTER CYCLE TIMES

- G54.4 Workpiece Installation Error Compensation
- G43.4 Tool Center Point Control
- G68.2 Inclined Surface Machining Command
- 3-Dimensional Tool Radius Compensation
- Standard 4MB of memory
- Fine Program Segment Processing Capacity

M800V	540
M800	270
M700V	168

KEY FEATURES

OMR-CC (Optimum Machine Response – Contour Control)

Cycle time is reduced without compromising accuracy by outputting movement commands considering position error resulting from servo response delay.


The red circle indicates areas where OMR-CC is particularly effective.

OMR-FF (Conventional control)		OMR-CC (New control technology)
34m22s	Cycle time 11%▼	30m21s
9.7um	Path error*1 15%▼	8.2um
2447mm/min	Arc passing speed*1 41%▲	3465mm/min

*1. R10mm F4000 arc command

Spline Interpolation 2

This function solves the problem of uneven (marked) surfaces resulting from the variance of programmed points that occur when a machine program is generated by a CAM tool, improving machine quality.
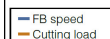

Extending tool life

Target load   High load

Speed DOWN

Reducing time

Target load

Speed UP
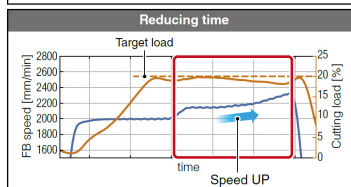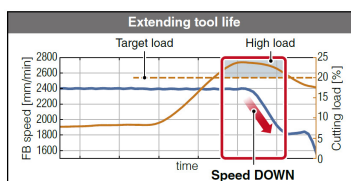
Reduction in rough cutting time of an evaluation workpiece

Cutting load control OFF		Cutting load control ON
38m27s	14.4%▼	32m55s

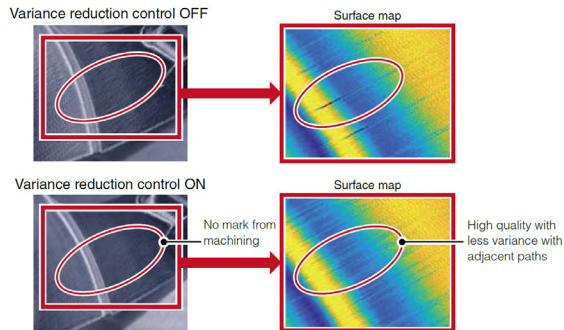* R10mm F4000 circular interpolation

Evaluation workpiece (image)

— FB speed
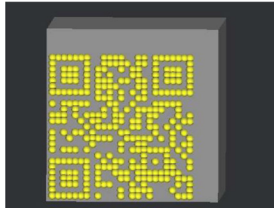— Cutting load

KEY FEATURES continued

Cutting Load Control

Feedrate is automatically adjusted so that the actual load rate matches the predefined target load rate during machining. The parameters appropriate for the tool and workpiece can be selected from eight parameter groups.

Variance reduction control OFF
Surface map

Variance reduction control ON
Surface map
No mark from machining
High quality with less variance with adjacent paths

Tool Cutting Point Control

In five-axis machining, it was necessary to modify the machine program as tool wear occurs to keep the cutting point constant. Now tool wear is automatically compensated for by simply setting the tool length and tool shape (tool radius, corner radius).

Compensation

Example of tool wear
The cutting point shifts

Tool cutting point control
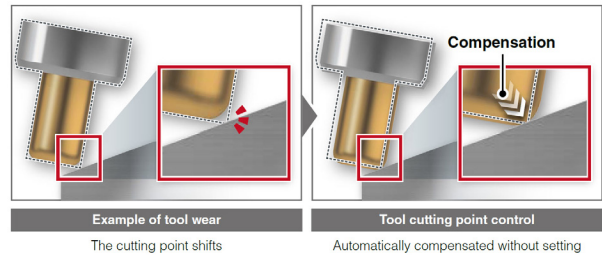Automatically compensated without setting

Two-Dimensional Barcode Engraving Cycle

Consecutive drilling according to the cell positions of a QR code from dedicated addresses to specify the size, angle, and depth of holes.

Character Engraving Cycle

Using dedicated G code and format, you can character engrave on flat, curved, or inclined surfaces. Font size and the ability to curve text around an arc are customizable.
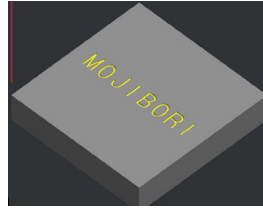
High Speed – High Accuracy Mode G05 P20000

Containing the fastest processer in the industry, the M8V Series control aids the industry-leading cycle times. This function is essential for processing large CAM programs as the control must process the point-to-point movement efficiently to generate a smooth surface finish without tool hesitation.

Control	Blocks/min	Look Ahead	Block Processing TIme
M850V	540,000	5,400	.1ms

Download the M8V Catalog