

Direct detection of equipment movement

Reliable detection of slight stroke changes (3–5 mm) in rotary indexing tables, with easy setup



Product

Discrete sensor

Adjustable Proximity Sensor

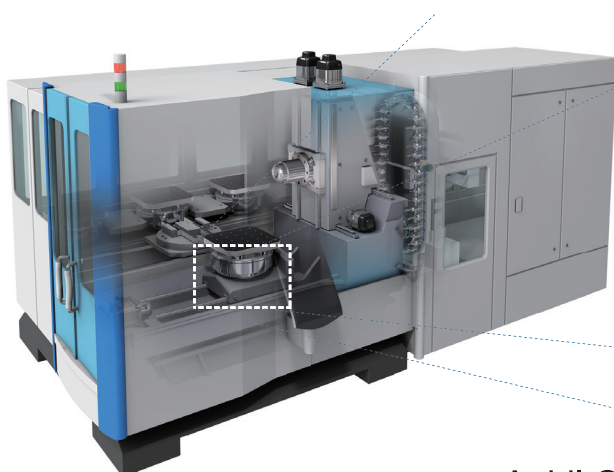
Model

H3C

Process/
EquipmentMachining center,
rotary indexing table

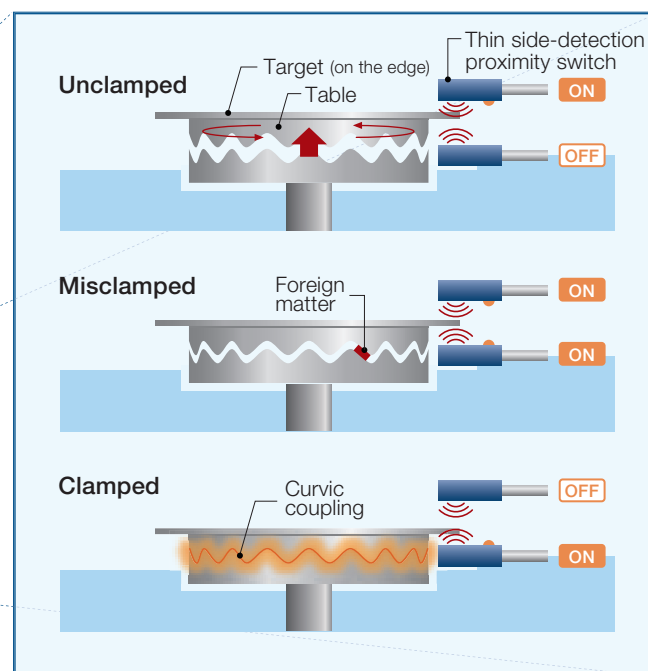
Current Situation

- Rotary indexing tables are used for heavy cutting where there is a high amount of resistance. The upper and lower teeth around the edge (curvic coupling) engage tightly for high rigidity.
- The rotary table is rotated to change the workpiece's orientation. The table is lowered to allow the curvic coupling to engage and secure (clamp) the workpiece and the next machining process begins.
- To identify the Clamped and Unclamped states, the installation positions of conventional proximity switches are precisely adjusted to detect the height of the projections on the rim of the table.
- Foreign matter may interfere with the curvic coupling, resulting in a Misclamped state.



Current Problems

- Two proximity switches are installed with an offset, and adjusting the on and off positions for Clamped, Misclamped, and Unclamped takes a great deal of time.
- There is not enough space to install multiple proximity switches, so workarounds such as using thin side-detection proximity switches are needed.



Solution 1

Saving space

A single H3C can detect the projections on the edge of the table from the side, saving space.

Solution 2

Easy adjustment and man-hour reduction

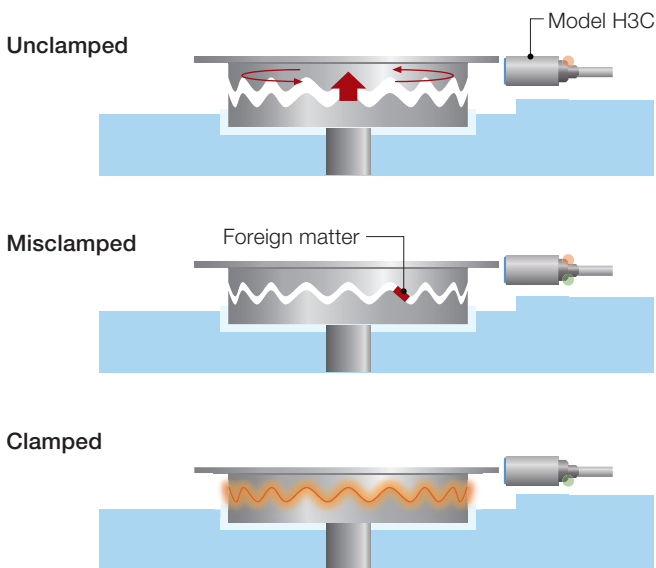
Teaching in the Clamped, Misclamped, and Unclamped states automatically sets thresholds at the midpoints of the detection levels.

Solution 3

Special Configuration Tool software visualizes detection levels

This software tool makes it possible to monitor the safety margins for sensing, allowing you to always check for the optimum threshold and make adjustments.

Solution 1 Sample proximity switch installation



	Clamped	Misclamped (e.g., foreign matter)	Unclamped
Output 1	OFF	ON	ON
Output 2	ON	ON	OFF

Note: There is no guarantee that this detection method can be used. The feasibility and accuracy of detection depend on the actual service conditions and environment. Conduct an operation check and evaluate the results before actual use.

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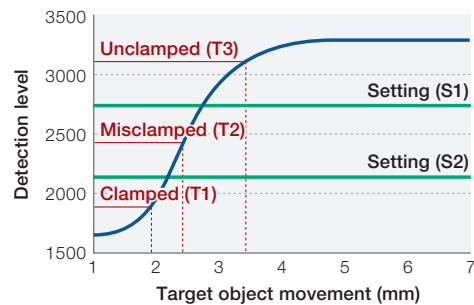
Advanced Automation Company

1-12-2 Kawana, Fujisawa
Kanagawa 251-8522 Japan

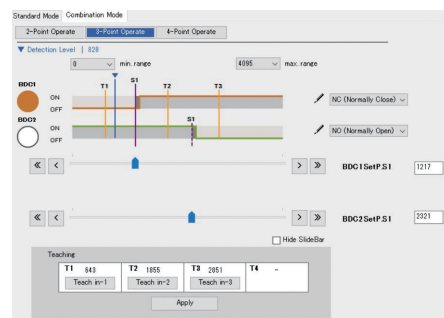
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Solution 1 Set by auto-tuning



解決法 3 専用設定ツール



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