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PH10 PLUS motorised probe head range

PH10 PLUS

The range of PH10 PLUS motorised probe heads increases throughput by giving automated CMMs the added capability of program controlled probe reorientation. This enables the inspection of features at different angles without the need for frequent, time consuming stylus cluster changes.

PH10 PLUS heads are compatible with a range of both contact and non-contact scanning sensors and touch-trigger probes, allowing the size and form of critical features to be determined.

When used in conjunction with the PH10M PLUS or PH10MQ PLUS, Renishaw's autochange systems provide fast, repeatable probe and extension bar exchange, without the need for re-qualification of the stylus tip, helping to maximise productivity.

Since 1988 the PH10 heads have been installed on thousands of co-ordinate measuring machines and Renishaw has engaged on a continuous development program resulting in several important enhancements through the product's history including:

- Significant mechanical design improvements
- Improved repeatability and long term stability
- LED replaced with light guide (red when powered on and white when off)
- Ability to store usage history for subsequent analysis
- 2 year warranty as standard.



Key benefits

Accuracy
Repeatability specification is a market leading 0.4 µm at a 100 mm radius from the centre of rotation of the axis, providing accurate positioning even when using long extensions.

Increased throughput
The PH10's ability to index automatically reduces the number of stylus changes required, thereby increasing the throughput of your CMM. Indexing is faster than stylus changing.

Increased reach and flexibility
Extension bars up to 450 mm long, together with the full range of Renishaw autojoint and M8 probes, can be used with the appropriate head types.

Innovations

Repeatable kinematic location
The PH10 PLUS uses a six point kinematic location for each of its 720 indexable positions, making its locking mechanism the most repeatable on the market.

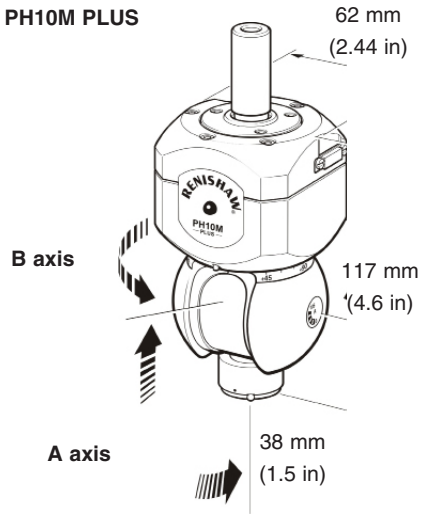
The Renishaw autojoint
This industry standard feature allows repeatable automated probe exchange without the need for stylus requalification.

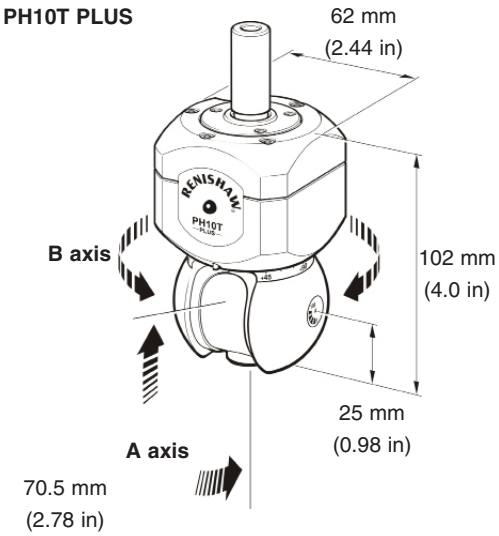
UCC compatibility
The PH10 PLUS can be used in conjunction with Renishaw's UCC controller family, providing a comprehensive retrofit solution for all types of CMM.

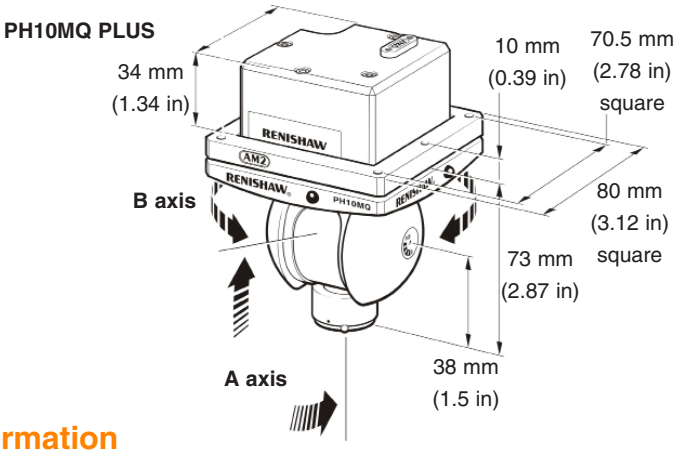
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Specification

Head type	PH10MQ PLUS	PH10M PLUS	PH10T PLUS
Weight	730 g (25.7 oz)	645 g (22.07 oz)	
CMM mounting	Direct to quill	Shank	
Probe mounting	Renishaw autojoint (multiwired) M8 threaded probes can be used with PH10MQ/M PLUS via PAA probe adaptor		M8 thread
Head controller	PHC10-3 PLUS, UCC T3 PLUS or UCC S3		
Repeatability of position	0.4 µm (0.00002 in) specified at a distance of 100 mm (3.94 in) from the A-axis centre of rotation		
Cycle time: **7.5° move** **90° move**	 2.5 seconds 3.5 seconds		
Total angular movement: **A axis** **B axis**	 0° to 105° in 7.5 steps 0° to ±180° in 7.5 steps		
Total number of positions	720		
Maximum drive output torque	0.45 Nm		
Maximum extension bar	300 mm (11.8 in) using PAA3 probe adaptor 450 mm (17.7 in) using PAACF special order only extension		300 mm (11.8 in) using PEL4 extension
Temperature range **Operating** **Storage**	 10 °C to 40 °C (50 °F to 104 °F) -10 °C to 70 °C (14 °F to 158 °F)		
Joystick options	HCU1 or MCU*lite*-2, MCU5 or MCU W		
Warranty	2 years		







Additional information

A variety of shanks are also available for PH10M PLUS and PH10T PLUS depending on your CMM.
In order to select the correct PH10 PLUS kit for your machine refer to **www.renishaw.com/PH10 PLUS**.

For worldwide contact details, please visit our main website at www.renishaw.com/contact

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