

PH10 PLUS motorised indexing heads



LABORATORIO DE CALIBRACIÓN DIMENSIONAL

Ave. Revolución #3558 Sur Col. Primavera.
Monterrey, Nuevo León 64830, México
tel. 8359 7484 y 82
e-mail: servicio@riitalia.com

www.riitalia.com



What is a PH10 PLUS?

The PH10 PLUS range of products are indexing probe holders which allow the probe to be orientated and locked in any of the 720 positions during the inspection cycle.

Renishaw offers a family of PH10 PLUS heads that can be matched to your specific application.



PH10 PLUS range differences

The table below shows the differences in the PH10 PLUS range:

Head type	Head mount	Probe mount
PH10T PLUS	Shank	M8 thread
PH10M PLUS	Shank	Multiwire autojoint
PH10MQ PLUS	Quill	Multiwire autojoint

Where are they used?

The PH10 PLUS family gives DCC machines the added capability of probe reorientation, allowing the probe to inspect features at the optimum angle, considering access requirements and probing best practice.

PH10 PLUS can be mounted to a variety of different sized bridge or horizontal arm machines for touch-trigger, optical or scanning probing.



Where are they used?



The PH10 PLUS range is a universal family of products used in many industries including aerospace and automotive.

Compatible with a full range of sensors and extensions, the position, size and form of high tolerance features can be determined.

The PH10 PLUS range of heads are established and reliable products that provide a cost effective probing solution.

What are the benefits?

The PH10 family brings many benefits that will improve the way you inspect components and assemblies.

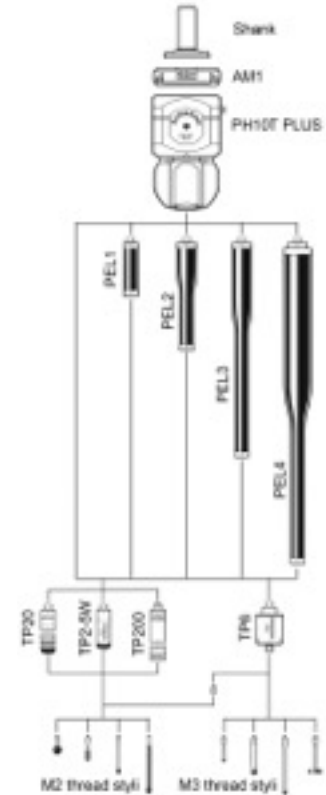
These benefits include:

- Flexibility
- Increased throughput
- Maximum accessibility
- Improved accuracy
- Minimal risk to head and CMM
- Low cost of ownership



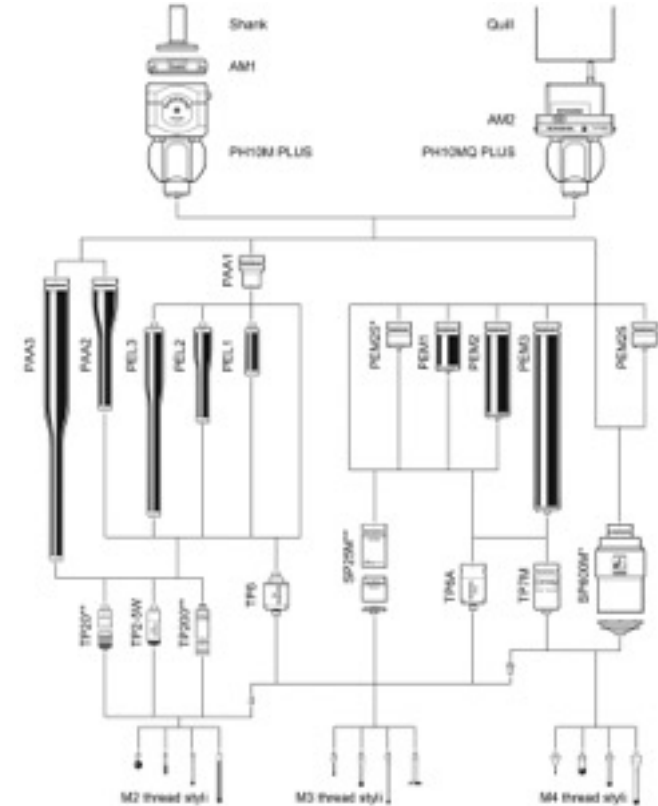
Flexibility

PH10T PLUS can be used with Renishaw's range of M8 threaded probes and extension bars.



Flexibility

The PH10M PLUS and PH10MQ PLUS can be used with Renishaw's range of autojoint probes and extension bars.



Increased throughput

The motorised indexing of PH10 PLUS reduces the number of stylus changes, increasing the throughput of your machine.

The PH10 PLUS range can move through 90 degrees in 3.5 seconds keeping the time that you are not inspecting to a minimum.

The repeatable kinematic autojoint on PH10M PLUS / PH10MQ PLUS allows for DCC probe or extension bar changing with ACR3 rack.

Re-qualification of the stylus tip is not needed, this reduces inspection time and allows un-manned inspection cycles.



Accessibility



The PH10 PLUS can articulate in 7.5° increments in both the A-axis (105°) and B-axis ($\pm 180^\circ$) giving 720 repeatable positions.

Long extension bars and a comprehensive range of styli increase the access range of the PH10 PLUS family.

The PH10MQ PLUS increases the available working volume with its B axis housed within the quill of the CMM. An 80 mm quill is required.

Accuracy

The PH10 PLUS family can achieve 0.4 μm repeatability at 62 mm radius providing accurate positioning even when using long extensions.

The accuracy of the PH10 PLUS enables you to achieve improved inspection routines and can help to reduce the level of scrap experienced.

Articulating heads with simplified styli configurations improve the accuracy and dynamics achieved.

Repeatable extension bar and probe / module changing also enhances the accuracy and flexibility of the system.

Minimal risk to head and CMM

The PH10 PLUS has a recommended maximum torque of 0.45 Nm. This safety feature ensures that in the event of an accidental collision the head will overtravel, protecting itself and the CMM from damage.

The ACR3 autochange rack uniformly controls the changing of probes and extensions removing the element of human error and the possibility of damage when manually changing probes.



Low cost of ownership

PH10 PLUS components are individually priced giving you the added flexibility of choosing and growing the best system for your application.

Renishaw offers a wide range of service options for all products in order to minimise customers downtime.

Cost of repair is based on an assessment and a consultation takes place before any work is undertaken.

PH10 PLUS customers also have the option of purchasing a replacement from the repair by exchange (RBE) scheme in the interests of fast turn around and minimal downtime.

Usage record and warranty

All PH10 PLUS heads are now able to store their usage history.

All PH10 PLUS heads now come with 2 years warranty as standard.



Summary

With PH10 PLUS you can...

- Measure using touch-trigger, optical or scanning probes depending on your application
- Index your stylus tip for increased accessibility
- Increase throughput by stylus changing without having to re-qualify
- Automatically change extension bars up to 450 mm long for increased accessibility

Summary

With PH10 PLUS you can...

- Achieve accuracy of 0.4 μm at 62 mm radius
- Protect your investment through integral over travel protection
- Be assured that any machine downtime will be kept to a minimum through Renishaw's expert service and support



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