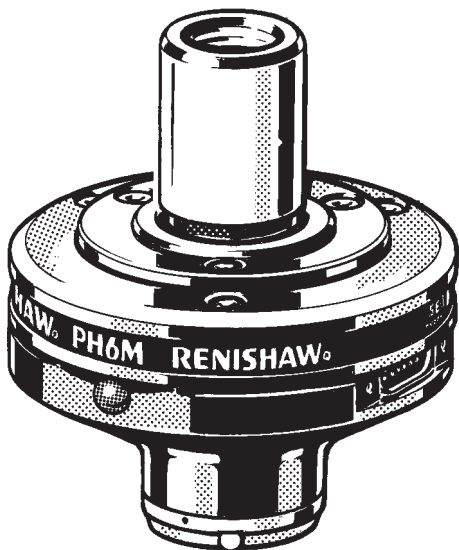


PH6M probe head



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PH6M

user's guide



Care of equipment

Renishaw probes and associated systems are precision tools used for obtaining precise measurements and must therefore be treated with care.

Changes to equipment

Renishaw reserves the right to improve, change or modify its hardware or software without incurring any obligations to make changes to Renishaw equipment previously sold.

Warranty

Renishaw plc warrants its equipment provided that it is installed exactly as defined in associated Renishaw documentation.

Prior consent must be obtained from Renishaw if non-Renishaw equipment (e.g. interfaces and/or cabling) is to be used or substituted for Renishaw equipment. Failure to comply with this will invalidate the Renishaw warranty.

Claims under warranty must be made from authorised service centres only, which may be advised by the supplier or distributor.

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1 Introduction

The PH6M is a shank mounted, fixed orientation, probe head incorporating the Renishaw autojoint probe connector.

The PH6M is compatible with the AM1 adjustment module to allow precise autojoint alignment with machine axes, enabling trouble-free autochange operation.

Probe reach may be extended using the PEM range of extension bars for multiwired probes or the PAA series for adapting to M8 connected probes.

Electrical connection is made via a 15-pin micro 'D' type connector. A range of mating cables is available with the remote end either terminated or unterminated according to installation requirements.

An integral LED indicates the status of touch-trigger probes.

2 Installation and connection

The PH6M is fitted with an integral 15-pin micro 'D' socket. If required, this socket can be adapted by using a suitable cable to which a 5-pin DIN socket has been fitted.

Locking and unlocking the autojoint is performed either manually using the S10 joint key (supplied) or automatically using the Renishaw autochange system. This allows probes to be changed without the need to requalify.

3 Dimensions

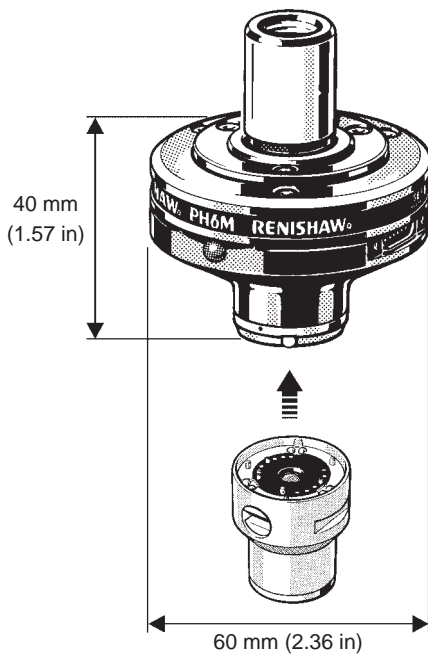


Figure 1 - PH6M dimensions

4 Operation

The autojoint is a highly repeatable coupling mechanism which will minimise the need for tip re-qualification after the exchange of probes or extension bars. The locking mechanism is operated by rotating an actuator contained in the mating half of the coupling, which is located on the probe or extension bar. The actuator has a drive slot which may be operated using an S10 joint key for manual probe or extension bar changing applications (see figure 2 on page 8). Automatic probe or extension bar changing is possible using the Renishaw ACR1 or ACR3 autochange systems.

The status of the probe is indicated by the probe status LED. This is normally lit when the probe is ready for use and extinguishes as the probe triggers.

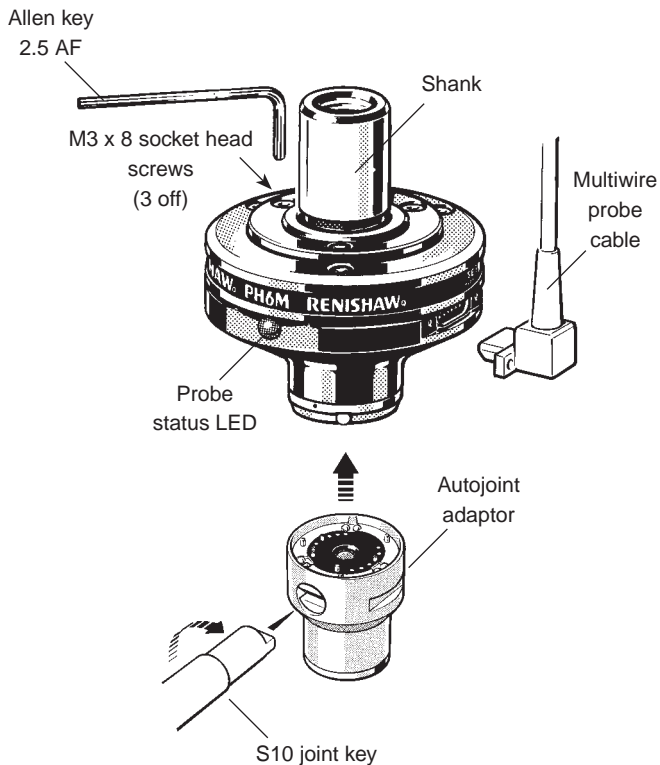


Figure 2 - PH6M

5 System connection

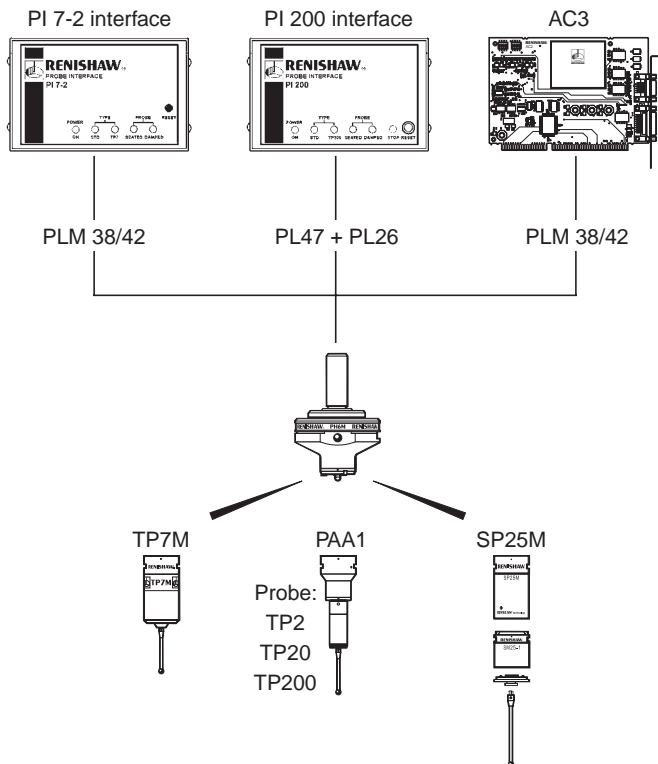


Figure 3 - System connection

6 Interconnecting cables

There is a choice of standard cables to connect from PH6M to probe interfaces PI 7-2, PI 200, OPI6, the AC2 card for SP600M or the ACR3 card for SP25M.

Connectors shown in brackets are supplied in kit form. The cable is supplied with the micro 'D' connector fitted and the remote end prepared, but unterminated, to facilitate assembly into machine looms.

Termination	Length	Ident	Part number	Notes
(15-way high density 'D')	25 m	PL38	A-1016-7625	Supplied unterminated
(15-way high density 'D')	15 m	PL42	A-1016-7624	Supplied unterminated
Unterminated	12 m	PL56	A-1016-7626	No connector supplied
(15-way high density 'D')	8 m	PL44	A-1016-7627	Supplied unterminated
(15-way high density 'D')	3.7 m	PL46	A-1016-7628	Supplied unterminated
(15-way high density 'D')	1.9 m	PL45	A-1016-7629	Supplied unterminated

Please contact Renishaw for details of cables for PI 200.

7 Specification

Repeatability 1 μm (2σ) at stylus tip 50 mm (1.97 in) from connector face.

Probe compatibility Direct fitting of SP25M, TP7M, OTP6M, SP600M and TP6A.

PAA series adaptor/extension required for M8 connector probes TP200, TP20 and TP2.

Dimensions Length: 40 mm (1.57 in) – without shank

Diameter: 60 mm (2.36 in)

Weight 160 g (0.36 lb)

Probe mount Multiwired autojoint

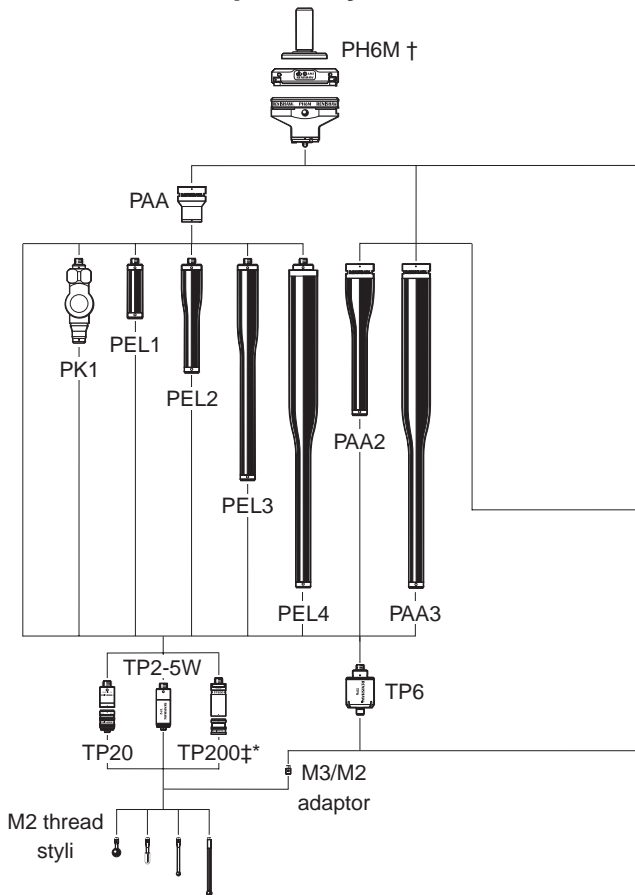
Number of sockets One

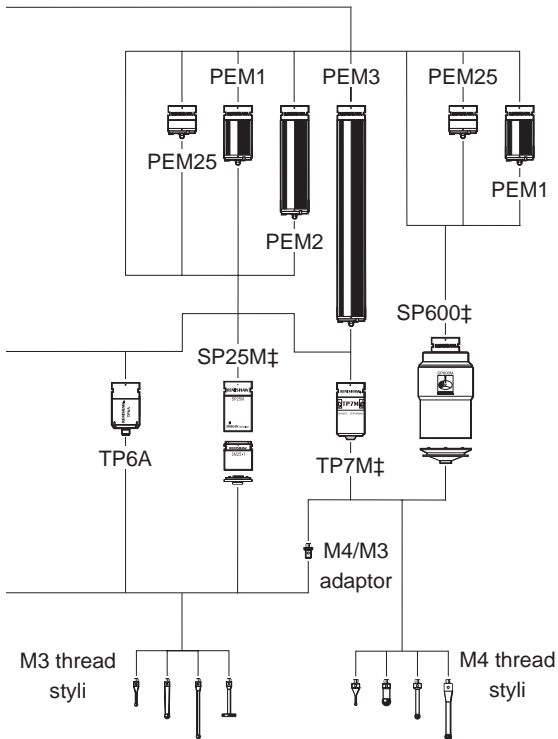
Style of probe joint Multiwired autojoint

Probe status indication One LED

Cable connection 15-way micro 'D' connector

8 Probe compatibility





9 Accessories and parts list

9.1 Accessories

Part	Description	Part number
AM1	Adjustment module for precise alignment of the head axes with the CMM or autochange rack.	A-1026-0320
S10	Autojoint key	A-1051-0040

9.2 Parts list

Please quote the part number when ordering.

Type	Part number
PH6M + MS1 shank	A-1074-0031
PH6M + MS2 shank	A-1074-0032
PH6M + MS3 shank	A-1074-0033
PH6M + MS9 shank	A-1074-0039
PH6M + MS13 shank	A-1074-0043
PH6M + MS15 shank	A-1074-0045

Renishaw plc

New Mills, Wotton-under-Edge,
Gloucestershire, GL12 8JR
United Kingdom

T +44 (0)1453 524524

F +44 (0)1453 524901

E uk@renishaw.com

www.renishaw.com

RENISHAW 
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**For worldwide contact details,
please visit our main website at
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