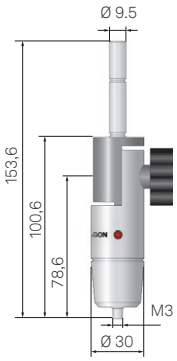
Manual probe head

HH-T





HH-T is a manually adjustable probe head that can be rotated into an infinite number of non-repeatable positions. Highly flexible yet cost-effective, the HH-T is the ideal tool for small and entry-level machines. Trigger force is manually adjustable to give optimal probing performance with many stylus configurations.

	HH-T	
Manual probe head	Part No. *	03939020
	Probe repeatability 1D (2 Sigma)**	0.75 µm
	Adjustable trigger force	0.1 to 0.3 N
	Overtravel	X/Y = ± 20°, Z = + 6 mm
	Measuring directions	± X, ± Y, + Z

* For information about available sets, please see page 46

** Test conditions: Stylus length 21 mm, force setting 0.12 N, touch speed 8 mm/sec.

Manual probe heads

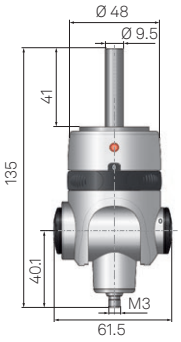
HH-MI | HH-MI-M



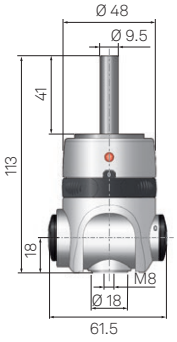
HH-MI



HH-MI-M



HH-MI



HH-MI-M

These manually indexable probe heads are capable of indexing in 15° increments and can achieve 168 unique positions without the need for requalification. The heads can be easily locked, unlocked and rotated with one hand.

The HH-MI features an integrated, high-precision touch trigger probe, which can be manually adjusted to allow for a wide range of stylus combinations.

The HH-MI-M features an M8 threaded connection, which enables users to mount a touch trigger probe on the head. When combined with a HP-TM touch trigger probe, probe modules can be exchanged with the HR-MP probe module changer to give the flexibility of an automatic stylus change without the need for requalification.

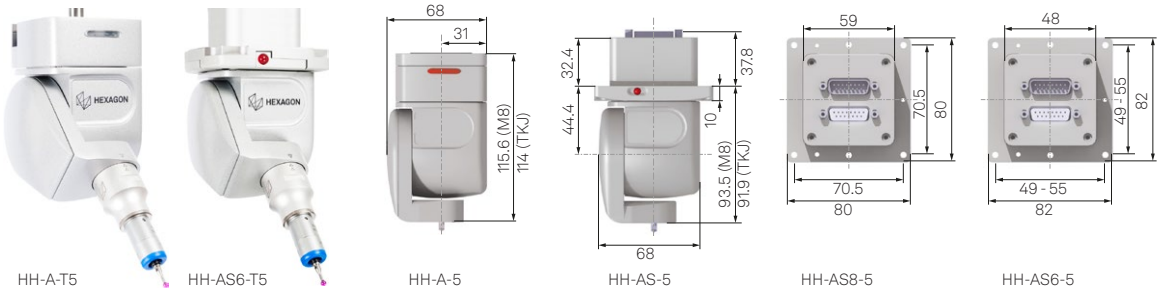
		HH-MI	HH-MI-M
Manual probe heads	Part No. *	03939030	03939031
	Angular rotation	A: 0° - 90°, B: ± 180°	A: 0° - 90°, B: ± 180°
	Increments	15°	15°
	Total number of positions	168	168
	Position repeatability	1.5 µm	1.5 µm
	Extensions	-	M8/M8, max. length 50mm
	Probe repeatability 1D (2 Sigma)**	0.35 µm	-
	Adjustable trigger force	0.1 to 0.3 N	-
	Overtravel	X/Y = ± 20°, Z = + 6 mm	
	Measuring directions	± X, ± Y, + Z	-
	Axis clamping	Manual, by two buttons on the probe head	Manual, by two buttons on the probe head

* For information about available sets and accessories, please see page 46

** Test conditions: Stylus length 21 mm, force setting 0.12 N, touch speed 8 mm/sec.

Automatic 5° probe heads

HH-AS6-T5 | HH-AS6-M5 | HH-AS8-T5 | HH-AS8-M5 | HH-A-T5 | HH-A-M5



HH-A-T5 HH-AS6-T5 HH-A-5 HH-AS-5 HH-AS8-5 HH-AS6-5

Offering high speed operation and high rotational torque, these probe heads are capable of indexing in steps of 5° and can achieve 3 024 unique positions.

The probe heads can either be mounted on the CMM with a shank or flange (HH-A version) or directly into the ram of the machine (HH-AS version for 80 mm or 65 mm rams).

The HH-A-M5 and HH-AS-M5 probe heads are fitted with an M8 threaded connection so users can leverage a touch trigger probe. The HH-A-T5 and HH-AS-T5 probe heads are fitted with a kinematic joint (TKJ), which makes them compatible with a wide range of Hexagon TKJ sensors such as scanning probes or laser scanners.

		HH-AS6-T5 TKJ 5°	HH-AS6-M5 M8 5°	HH-AS8-T5 TKJ 5°	HH-AS8-M5 M8 5°	HH-A-T5 TKJ 5°	HH-A-M5 M8 5°
Automatic 5° probe heads	Part no. *	03939260	03939280	03939270	03939290	03939450	03939400
	Indexing angle	5°	5°	5°	5°	5°	5°
	A axis	+ 90° to - 115°	+ 90° to - 115°	+ 90° to - 115°	+ 90° to - 115°	+ 90° to - 115°	+ 90° to - 115°
	B axis	± 180°	± 180°	± 180°	± 180°	± 180°	± 180°
	Total number of positions	3 024	3 024	3 024	3 024	3 024	3 024
	Rotation speed	90° in 2 sec.	90° in 2 sec.	90° in 2 sec.	90° in 2 sec.	90° in 2 sec.	90° in 2 sec.
	Positioning repeatability	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation
	Max. recommended drive torque	0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm
	Max. extension length	300 mm	300 mm	300 mm	300 mm	300 mm	300 mm
	Weight	880 g	880 g	900 g	900 g	780g	780g
	Head mounting	65 mm ram	65 mm ram	80 mm ram	80 mm ram	Shank/flange	Shank/flange
	Head controller	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)
	Probe mounting	TKJ (multiwire)	M8 thread (2 wires)	TKJ (multiwire)	M8 thread (2 wires)	TKJ (multiwire)	M8 thread (2 wires)

* For information about available sets and adapters, please see pages 46 - 47

Automatic 7.5° probe heads

HH-AS8-T7.5 | HH-AS8-M7.5 | HH-A-T7.5 | HH-A-M7.5



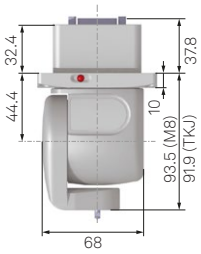
HH-A-T7.5



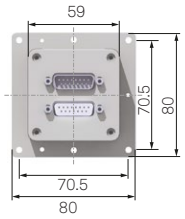
HH-AS8-T7.5



HH-A-7.5



HH-AS8-7.5



HH-AS8-7.5

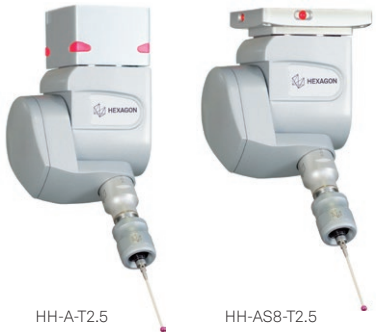
The HH-A-M7.5 and HH-AS-M7.5 motorised indexable probe heads feature an M8 threaded connection to enable the mounting of a touch trigger probe. The HH-A-T7.5 and HH-AS8-T7.5 probe heads are fitted with a kinematic joint (TKJ), which enables multisensor capabilities.

		HH-AS8-T7.5 TKJ 7.5°	HH-AS8-M7.5 M8 7.5°	HH-A-T7.5 TKJ 7.5°	HH-A-M7.5 M8 7.5°
Automatic 7.5° probe heads	Part no. *	03939362	03939363	03939360	03939361
	Indexing angle	7.5°	7.5°	7.5°	7.5°
	A axis	+ 105° to - 0°	+ 105° to - 0°	+ 105° to - 0°	+ 105° to - 0°
	B axis	± 180°	± 180°	± 180°	± 180°
	Total number of positions	720	720	720	720
	Rotation speed	90° in 2 sec.	90° in 2 sec.	90° in 2 sec.	90° in 2 sec.
	Positioning repeatability	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation	< 0.5 µm at 100 mm from the centre of A axis rotation
	Max. recommended drive torque	0.6 Nm	0.6 Nm	0.6 Nm	0.6 Nm
	Max. extension length	300 mm	300 mm	300 mm	300 mm
	Weight	900 g	900 g	800g	800g
	Head mounting	80 mm ram	80 mm ram	Shank/flange	Shank/flange
	Head controller	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)
	Probe mounting	TKJ (multiwire)	M8 thread (2 wires)	TKJ (multiwire)	M8 thread (2 wires)

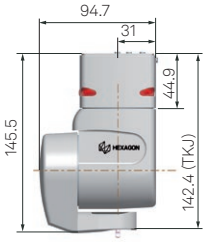
* For information about available sets and adapters, please see pages 46 - 47

Automatic 2.5° probe heads

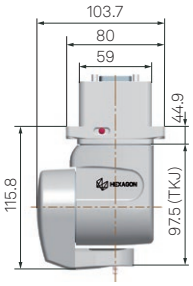
HH-A-T2.5 | HH-AS8-T2.5



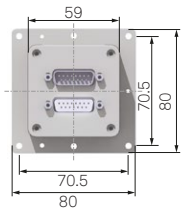
HH-A-T2.5 HH-AS8-T2.5



HH-A-T2.5



HH-AS8-T2.5



HH-AS8-T2.5

Thanks to a sophisticated drive system, these probe heads feature a large number of indexable positions and very high rotational torque.
The HH-A-T2.5 range is capable of indexing in 2.5° increments and can achieve 12 240 unique positions.
They feature an embedded controller, capacitive crash protection and positioning by use of a hirth gear.

The probe heads can either be mounted on the CMM with a shank or flange (HH-A version) or directly into the ram of the machine (HH-AS version for 80 mm rams).

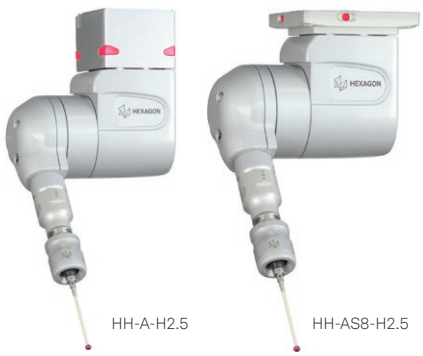
The probe heads' TKJ can be connected to a multiwire to enable full multisensor capabilities.

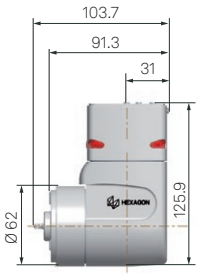
		HH-A-T2.5 TKJ 2.5°	HH-AS8-T2.5 TKJ 2.5°
Automatic 2.5° probe heads	Part no. *	03939420	03939422
	Indexing angle	2.5°	2.5°
	A axis	± 105°	± 105°
	B axis	± 180°	± 180°
	Total number of positions	12 240	12 240
	Rotation speed	90° in 2.5 s	90° in 2.5 s
	Positioning repeatability	< 0.5 µm at 100mm from the centre of A axis rotation	< 0.5 µm at 100mm from the centre of A axis rotation
	Max. recommended drive torque	1.4 Nm	1.4 Nm
	Max. extension length	450 mm	450 mm
	Weight	1 600 g	1 650 g
	Head mounting	Shank/flange	80 mm ram
	Head controller	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)
	Probe mounting	TKJ (multiwire)	TKJ (multiwire)

* For information about available sets and adapters, please see pages 46 - 47

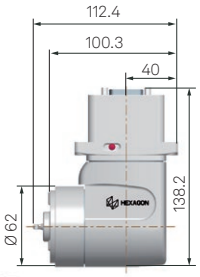
Automatic 2.5° HDKJ probe heads

HH-A-H2.5 | HH-AS8-H2.5

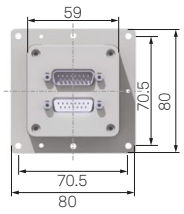




HH-A-H2.5



HH-AS8-H2.5



HH-AS8-H2.5

Offering the highest level of measuring flexibility, these probe heads are capable of indexing in 2.5° increments and can achieve 20 736 unique positions. They feature an embedded controller, capacitive crash protection to prevent probe damage and a hirth gear for highly accurate positioning of the probe.

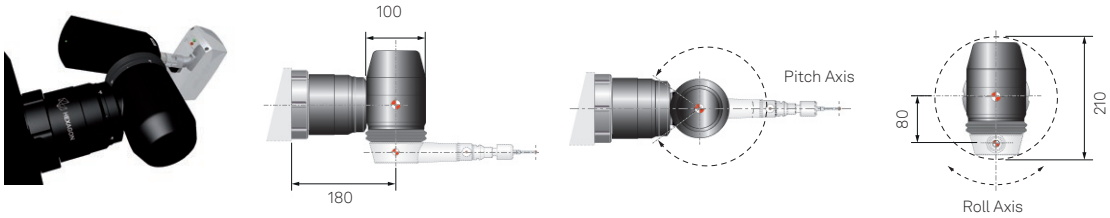
The probe heads can either be mounted to the CMM with a shank or flange (HH-A version) or directly into the ram of the machine (HH-AS version for 80 mm rams). Laser scanners and scanning probes can be supported further from the axis of rotation (750 mm) than with conventional heads due to the combination of extreme rotational torque and the heavy duty kinematic joint (HDKJ) adapter.

The HDKJ can be changed either manually without the need for requalification or automatically with the HR-R probe changer rack fitted with the optional HR-RH heavy duty module.

		HH-A-H2.5 HDKJ 2.5°	HH-AS8-H2.5 HDKJ 2.5°
Automatic 2.5° HDKJ probe heads	Part no. *	03939430	03939431
	Indexing angle	2.5°	2.5°
	A axis	± 180°	± 180°
	B axis	± 180°	± 180°
	Total number of positions	20 736	20 736
	Rotation speed	90° in 2.5 s	90° in 2.5 s
	Positioning repeatability	< 0.5 µm at 100mm from the centre of A axis rotation	< 0.5 µm at 100mm from the centre of A axis rotation
	Max recommended drive torque	1.7 Nm	1.7 Nm
	Maximum extension length	750 mm	750 mm
	Weight	1 550 g	1 600 g
	Head mounting	Shank/flange	80 mm ram
	Head controller	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)	HH-C-V2.1 / HH-CA-V2.0 (with HR-R probe changer rack)

* For information about available sets and adapters, please see pages 46 - 47

Continuous probe head
HH-ACW-43MW



Offering the ultimate in flexibility, the HH-ACW-43MW multi-axis continuous probe head enables fast and accurate orientation of probes in any probing direction in space. Alongside the ability to handle standard extensions up to 600 mm in length, the continuous positioning of rotary axes (in unlimited angular positions) enables complete access to the part being measured.

The exclusive probe changer rack allows for automatic exchange of extensions and adapters, ensuring ideal flexibility. With its multiwire adapter, the HH-ACW-43MW continuous probe head is compatible with the most popular probes and styli/probe changer racks, allowing point-to-point and scanning measurements.

The HH-ACW-3AA can be configured with integrated third axis for optimised use of non-contact sensors.

	HH-ACW-43MW	
Continuous probe head	Part no.	G30481300
	Useful angular stroke (Roll axis)	± 180°
	Useful angular stroke (Pitch axis)	± 170°
	Rotation speed	1 rad/sec.
	Acceleration	10 rad/sec.^{2} / 0.14 arc^{II}
	Positioning repeatability	1 x 10^{-5} rad
	Weight	3.5 kg
	Max. tool weight	1.5 kg
	Max. applied torque	2 Nm
	Adapters	HA-ACW-AA, HA-ACW-3AA
	Extensions	E200-mw, E330-mw, E570-mw, HP-T-RP, HP-T, HP-TM
	Changer racks	HR-ACW-AC, HR-MP