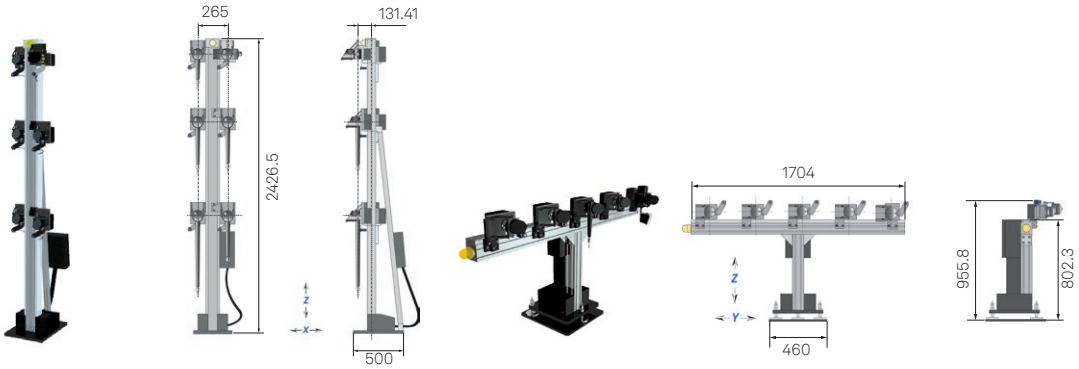
Probe changer rack
HR-ACW-AC



The HR-ACW-AC probe changer rack, in combination with the HH-ACW-43MW probe head, enables automatic repeatable exchange of all Hexagon adapters/extensions during execution of the measuring program.
The modular concept of the changer rack allows for configuration of a number of stations.

The rack is available for horizontal or vertical arm CMMs. It can be equipped with a programable logic controller (PLC), which is used to automatically identify if slots are free or filled.

	Changer rack for horizontal arm CMM				
	Part no.	Part description	Weight	Ports	Variation
Horizontal arm CMM	G32631100	Stand of HR-ACW-AC	80 kg	Max. 8	
	G32631201	Station for HH-ACW-43MW adapter and extensions			Without PLC
	G32451600	Station for HH-ACW-3AA adapter with warm up function ARM1			Without PLC
	G32451700	Station for HH-ACW-3AA adapter with warm up function ARM2			Without PLC
	G32435901	Station for HH-ACW-43MW adapter and extensions			With PLC
	G32451200	Station for HH-ACW-3AA adapter with warm up function ARM1			With PLC
	G32451300	Station for HH-ACW-3AA adapter with warm up function ARM2			With PLC

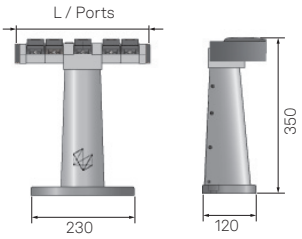
* Air supply requirements: > 0.45MPa < 1.0MPa (rated working pressure)

	Changer rack for vertical arm CMM			
	Part no.	Part description	Ports	Variation
Vertical arm CMM	G32432900	Stand for HR-ACW-AC*	Max. 5	Without PLC
	G32633000	Station for HH-ACW-43MW adapter and Extensions		Without PLC
	G32633100	Station for HH-ACW-3AA adapter with warm up function		Without PLC
	G32436900	Stand for HR-ACW-AC*	Max. 5	With PLC
	G32437300	Station for HH-ACW-43MW adapter and extensions		With PLC
	G32439500	Station for HH-ACW-3AA adapter with warm up function		With PLC

* Air supply requirements: > 0.45MPa < 1.0MPa (rated working pressure)

Probe changer rack
HR-R







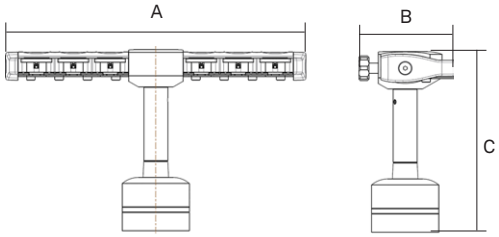
Saving time and increasing flexibility, the HR-R is an automatic probe changer rack that uses Hexagon's unique TKJ connector to exchange probes and extensions to and from the HH-A-T series of probe heads. The probe exchange is performed both quickly and accurately with no need for requalification. The HR-R is modular and can be easily customised to suit any application.

	Part No.	Part description	Ports	L (mm)	H (mm)
Probe changer rack	03939110	HR-R3 with adjustable feet	3	220	350
	03939111	HR-R5 with adjustable feet	5	304	350
	03939112	HR-R9 with adjustable feet	9	472	350
	03939483	HR-MP-A3 + HR-R adapter	Additonal 3 ports		
	03939091	HR-RA-40	Additional active port	40	
	03939092	HR-RA-65	Additional active port (for HP-C-VE, HP-L, HP-S-X3T)	65	
	03969370	Rising block			100
	03969371	Rising block			500
	052901	Adjustable feet			
	03939093	HR-RH Module	Module for HA-HT and HA-HM Adapter		
	M00-114-134-000		3 styli exchange ports for HP-S-X1		

Probe module changer rack
HR-MP



HR-MP3-90 HR-MP6-150



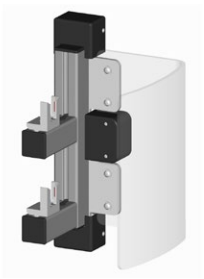
The HR-MP is a passive probe module changer rack that enables the fast interchange of probe modules or styli configuration during measuring cycles, guided directly by the CMM measuring software. Its modular design means it easily adapts to user needs. In addition to carrying between three and six ports, its base can be extended to a maximum height of 250 mm and it is compatible with HP-THD and HP-TM touch trigger probes, as well as HP-S-X1 scanning sensors. The rack can also be removed and placed on machine tables without the need for recalibration.

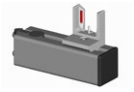
An optional module can be combined with the HR-R probe changer rack to enable the interchange of equipment without adding an extra rack to the CMM.

		HR-MP3-90	HR-MP6-90	HR-MP6-150
HR-MP Probe Module and Styli Changer Rack	Part no.	03939480	03939481	03939482
	Number of Modules	3 ports	6 ports	6 ports
	Height C** (mm)	88	88	148
	Width A(mm)	150	245	245
	Depth B(mm)	78	78	78
	Recommended module change speed	10mm/s		
	Max. module changer speed	100mm/s		
	Max. entry speed into the rack	800 mm/s		
	Crash protection	Yes	Yes	Yes
	Overtravel (X- / Y-axis)	20 mm	20 mm	20 mm
	Overtravel (Z-axis)	10 mm	10 mm	10 mm
	Alignment precision (X- / Y-axis)	± 250µm		
	Alignment precision (Z-axis)	± 150µm		

Styli changer rack for scanning probes HP-S-X1H/S

HR-X1-TR





Driving significant cycle time reductions, the HR-X1-TR is attached vertically on the guideway support of the machine and moves with the moving portal of the machine. Unlike a styli changer rack fixed to the base of the machine, the measurement volume isn't reduced with this vertical rack.

The HR-X1-TR can be used together with HP-S-X1S or HP-S-X1H scanning probes. The HR-X1-TR is available with different sizes of magazine strips.

	Part no.	Part description	Z-axis	Max. ports
Racks	M00-398-201-000	HR-X1-TR	300	2
	M00-295-201-000		600	4
	M00-304-201-000		700	4
	M00-304-201-000		900	5
	M00-304-201-200	Styli port		
	M00-398-201-200	Styli port for machine 543		

Styli changer rack for scanning probes HP-S-X1C/H/S and HP-S-X3

HR-X



The styli changer rack HR-X saves time and reduces manual interventions by enabling quick changes of styli configurations within a measuring program. The HR-X is suitable for Hexagon Reference and GLOBAL coordinate measuring machines in a range of sizes. Depending on probe and the conditions, there are different ports available.

	Part no.				Compatibility		
		Size CMM	Width (mm)	Height (mm)	HP-S-X1H HP-S-X1S	HP-S-X1C	HP-S-X3
Racks	M00-1087-010-000	5.4.3	400	195	✓	(✓)	-
	M00-1087-012-000	5.4.3	400	295	-	✓	✓
	M00-1087-015-000	7.5.5	400	295	✓	✓	✓
	M00-1087-020-000	7.7.5	700	295	✓	✓	(✓)
	M00-1087-022-000	7.7.5	700	395	(✓)	(✓)	✓
	M00-1087-020-000	10.7.6	700	295	✓	✓	(✓)
	M00-1087-022-000	10.7.6	700	395	(✓)	(✓)	✓
	M00-1087-030-000	15.9.7	900	295	✓	✓	(✓)
	M00-1087-032-000	15.9.7	900	395	(✓)	(✓)	✓
	M00-1087-035-000	20.9.7	900	295	✓	✓	(✓)
	M00-1087-037-000	20.9.7	900	395	(✓)	(✓)	✓
	M00-1087-040-000	xx.12.10	1200	395	✓	✓	✓

(✓) represents an alternatively selectable stylus rack

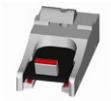
Stylus changer ports or stylus clamping/holders are not included in any styli changer rack and have to be ordered additionally.

Styli changer rack ports for HP-S-X1 and HP-S-X3

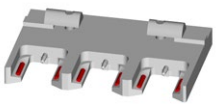
HR-X



M00-114-113-000
Styli port



M00-114-167-000
Styli port shopfloor



M00-114-213-000 Styli port triple



M00-114-109-000
Styli receptacle

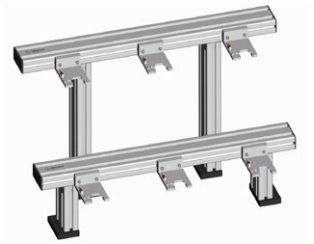
Depending on the size of the scanning probe and the ambient conditions, there are different ports for the styli changer rack HR-X.

	Max. stylus changer ports	HP-X1-P	HP-X1-P-SF	HP-X1-3P	HP-X3-P
Styli changer rack ports	Part no.	M00-114-113-000	M00-114-167-000	M00-114-213-000	M00-114-109-000
	M00-1087-010-000	9	9	3	-
	M00-1087-012-000	9	9	3	6
	M00-1087-015-000	9	9	3	5
	M00-1087-020-000	17	17	5	9
	M00-1087-022-000	17	17	5	9
	M00-1087-030-000	22	22	7	12
	M00-1087-032-000	22	22	7	12
	M00-1087-035-000	22	22	7	12
	M00-1087-037-000	22	22	7	12
	M00-1087-040-000	29	29	9	17

Styli changer rack and extension rack for scanning probe HP-S-X5

HR-XS | HR-XS-EX





The styli changer rack HR-XS (main rack) allows for fast change of styli configurations within a measuring program. The styli changer rack HR-XS is suitable for Hexagon Reference and GLOBAL coordinate measuring machines (depending on the size of the CMM).

Increasing measuring flexibility, the HR-XS-EX extension rack allows for an additional three ports. An already installed styli changer rack HR-XS is required for the use of the extension rack.

	HR-XS Main rack	**HR-XS-EX** Extension rack	**Size CMM** Reference / GLOBAL CMMs
Racks	M00-1087-110-000	M00-1087-115-000	10.7.6
	M00-1087-120-000	M00-1087-125-000	15.9.7
	M00-1087-130-000	M00-1087-135-000	20.9.7
	M00-1087-140-000	M00-1087-145-000	xx.12.10

Styli changer rack ports

HR-XS -P | HR-XS-P-X



M00-153-285-000

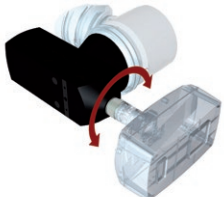


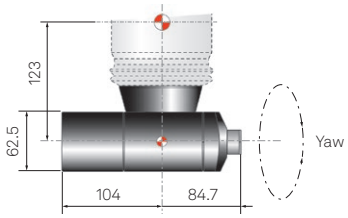
M00-153-286-000

Different styli ports can be used for the HR-XS styli changer rack to cater for different scanning probes and the user's desired position for the styli changer rack.

	Scanning probe HP-S-X5	**Size CMM**		**HR-XS-P**	**HR-XS-P-X**
		Width (mm)	**Hight (mm)**	**M00-153-285-000**	**M00-153-286-000**
				Max. stylus changer ports Styli receptacle in Y	Styli receptacle in X
Styli changer rack ports	M00-1087-110-000	700	415	8	6
	M00-1087-115-000	700	155	8	-
	M00-1087-120-000	900	515	11	8
	M00-1087-125-000	900	155	11	-
	M00-1087-130-000	900	515	11	8
	M00-1087-135-000	900	155	11	-
	M00-1087-140-000	1200	515	14	10
	M00-1087-040-000	1200	155	14	-

3rd axis adapter
HH-ACW-3AA



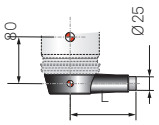


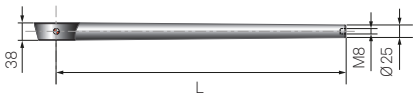
The HA-ACW-3AA 3rd axis adapter allows for the correct application of non-contact sensors in combination with the HH-ACW-43MW. Driving high speed operation, the repeatable docking capability allows the adapter to change both manually or in automatic mode by using the HR-ACW-AC probe changer rack.

	HA-ACW-3AA	
3rd axis adapter	Part No.	G30414900
	Useful angular stroke	± 180°
	Rotation speed	1 rad/sec.
	Acceleration	10 rad/sec.
	Resolution	3.16 arc
	Positioning repeatability	7 x 10 rad
	Weight	1.7 Kg
	Max. tool weight	1 kg
	Max. applied torque	1.5 Nm
	Probe changer rack	HR-ACW-AO
	Compatible sensors	HP-L

Adapter HA-ACW-AA
Extensions HA-ACW200M/330M/570M







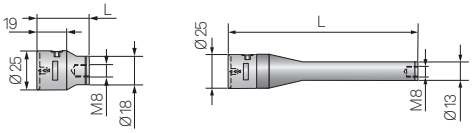
Maximising measurement versatility, the HA-ACW-AA adapter enables the use of all Hexagon probes/extensions equipped with an autojoint connection. The repeatable docking allows users to change the adapter in automatic mode or manual mode by using the HA-ACW-AC probe changer rack.

The series of extensions – available in three different lengths – can be used with all point-to-point probes equipped with an M8 thread. The repeatable docking system allows for automatic and manual change of extensions.

	HA-ACW	Part No.	Material	L (mm)	Weight (g)
Adapter Extensions	HA-ACW-AA (Adapter)	G32026300	Aluminium alloy / Carbon fibre	129.5	500
	HA-ACW-200M (Extension)	G32005800	Aluminium alloy / Carbon fibre	200	500
	HA-ACW-330M (Extension)	G32005900	Aluminium alloy / Carbon fibre	320	600
	HA-ACW-570M (Extension)	G32026000	Aluminium alloy / Carbon fibre	570	650
	Extension Kit	G32026200			

TKJ to M8 adapters
HA-TM





The HA-TM adapters, available in four different lengths, are suitable for all Hexagon touch-trigger probes with M8 threads. The TKJ to M8 adapters allows fast and repeatable probe mounting and dismounting in automatic mode in combination with the HR-R probe changer rack. Changing the probes manually is also possible.

	TKJ to M8 adapters	Part No.	Material	L (mm)	Weight (g)
TKJ to M8 adapters	HA-TM-31	03969365	Aluminium / Stainless steel	33	64
	HA-TM-140	03969366	Aluminium / Stainless steel	140	84
	HA-TM-300	03969367	Aluminium / Stainless steel	300	121
	HA-TM-450C	03969368	Carbon fibre / Stainless steel	450	150

Fixed adapter
HA-F

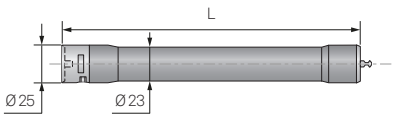


The HA-F fixed adapter allows any autojoint multiwire probe to be used with the HH-A-T and HH-AS-T probe head series. The HA-F is fully compatible with the HR-R probe changer rack.

	Fixed adapter	Part No.	Material	L (mm)	Weight (g)
	HA-F	03969369	Stainless steel	35	75

TKJ extensions and angular adapters
HA-TT





The HA-TT series is a range of extensions and TKJ to TKJ angular adapters. The extensions allow for the use of long stable probe builds for deep measuring applications. The range also contains four angular adapters that enable the probing product to be mounted at a variety of angles. Each adapter contains a full multiwire and is fully compatible with the HR-R probe changer rack.

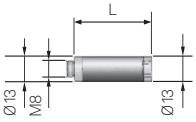
	HA-TT	Part No.	Material	L (mm)	Weight (g)	Angular °
TKJ extensions	adapters	HA-TT-50 Extension	03969360	Aluminium / Stainless steel	52	80	
	HA-TT-100 Extension	03969361	Aluminium / Stainless steel	102	102	
	HA-TT-200 Extension	03969362	Aluminium / Stainless steel	202	153	
	HA-TT-300 Extension	03969363	Aluminium / Stainless steel	302	200	
	HA-TT-300C Extension	03969364	Carbon fibre / Stainless steel	302	-	
	HA-TT-A0 Angular Adapter	03969390	Aluminium / Stainless steel	35	71	0°
	HA-TT-A30 Angular Adapter	03969391	Aluminium / Stainless steel	35	71	30°
	HA-TT-A60 Angular Adapter	03969392	Aluminium / Stainless steel	35	71	60°
	HA-TT-A90 Angular Adapter	03969393	Aluminium / Stainless steel	35	71	90°
	Set of 4 TKJ Angular Adapters	03969394				

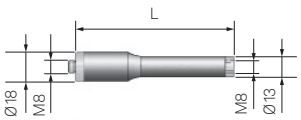
M8 extensions

HA-M







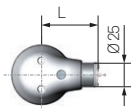


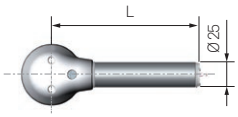
The HA-M series is a range of M8 to M8 threaded connectors enabling deep part access.
The extension can be mounted on the HH-MI-M, HH-A-M or HA-TM series of probe heads or accessories. The extensions are available in three sizes: 50, 100 and 200 mm. A HA-M KIT includes all three lengths.

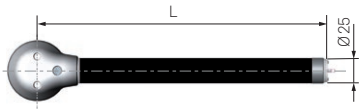
	HA-M	Part No.	Material	L (mm)	Weight (g)
M8 extensions	HA-M KIT	03969077	Aluminium		
	HA-M-50	03969065	Aluminium	50	23
	HA-M-100	03969066	Aluminium	100	55
	HA-M-200	03969067	Aluminium	200	85

HDKJ to TKJ adapters

HA-HT





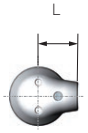


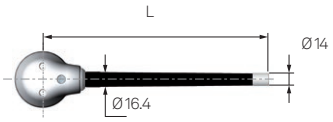
The HA-HT series is a range of HDKJ to TKJ adapters, enabling the use of long stable probe builds for deep measuring applications. Each adapter contains a full multiwire and is fully compatible with the HR-R probe changer rack equipped with a HR-RH module.

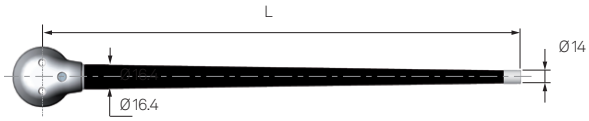
	HA-HT	Part No.	Material	L (mm)	Weight (g)
Adapters	HA-HT-CA	03969345	Aluminium	58	170
	HA-HT-150	03969346	Aluminium	150	220
	HA-HT-300C	03969347	Carbon fibre	300	260

HDKJ to M8 adapters

HA-HM







The HA-HM series is a range of HDKJ to M8 adapters, compatible with any touch trigger probe fitted with an M8 connector. HA-HM adapters allow for the use of extremely long and stable probe builds for very deep measuring applications. The adapter is fully compatible with the HR-R probe changer rack equipped with a HR-RH module.

	HA-HM	Part No.	Material	L (mm)	Weight (g)
Adapters	HA-HM-CA	03969395	Aluminium	44,5	170
	HA-HM-250C	03969396	Carbon fibre	250	200
	HA-HM-500C	03969397	Carbon fibre	500	250
	HA-HM-750C	03969398	Carbon fibre	750	300

Additional styli ports



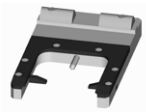
060-691.492-000
*Receptacle PMM
Weight: 240 g



M00-114-112-000
*Receptacle



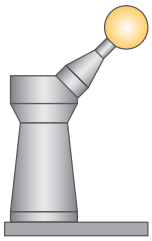
M00-114-111-000
*Receptacle



M00-114-110-000
*Receptacle

* not compatible with stylus racks HR-X, HR-XS, HR-XS-EX

Reference spheres



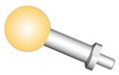
M00-153-270-000, M8
Ceramic, with stand,
Ø 30 mm



M00-153-271-000, M8
Ceramic, without stand,
Ø 30 mm



M00-398-270-000
Ceramic, with stand,
Ø 15 mm, M4



M00-689-364-000
Ceramic, without stand,
Ø 25 mm, M6

M00-314-270-000,
Ceramic, with stand,
Ø 30 mm, M8
for Leitz Infinity

M00-398-271-000
Ceramic, without
stand, Ø 15 mm, M4



060-694.021-011
Tommy bar 100 x 3 mm



M07-S02-000-012
Chamois leather