



ALTO 5.4.4 - 6.5.4

Technical Datasheet

Design Characteristics



CMM frame	
Description	Coordinate Measuring Machine, motorised or manual version, aluminium alloy moving half-gantry design with solid granite table.
Guide ways	Micro-machined, hard anodized aluminium alloy. Moving leg guide way integral to granite table.
Bearings	Air bearings with wide spread ratio on all axes.
Motion	Motorised version: DC servo motors with friction drive roller on steel bar. Manual version: Hand wheels with friction drive roller on steel bar.
Counterbalance	Adjustable pneumatic counterbalance on Z axis.
Base	Solid granite table to DIN876/III with M8 threaded table inserts.
Anti-vibration	Nitrile rubber vibration isolation pads.
Scales	High precision 0.1 µm resolution steel linear scale and read head system
Stand	Steel fabricated stand with adjustable feet.
Environment	
Operating temperature	15-35°C.
Relative humidity	40-80% (non-condensing).
Acceptable vibration	30mm/s ² from 1 to 10 Hz 15mm/s ² from 10 to 20 Hz 50mm/s ² from 20 to 100 Hz
Air supply	
Pressure	5 bar (71 PSI)
Consumption	90 NI/min.
Power supply	
AC Input	115V -5% to +10% 14A 50-60 Hz 230V -5% to +10% 7A 50-60 Hz

Manual version	Motorised version options			
Manual CMM and manual head	Motorised CMM and manual head	Motorised CMM and motorised head	Motorised multi-sensor CMM and motorised head	Motorised 5-axis CMM and motorised head
Electronics				
USB100 manual CMM interface.	NMC100 controller. NCH10 or SOLO handbook.		NMC300 controller. SOLO handbook.	UCC T5 controller. MCU5 handbook.
Probing				
MH20i manual head with integral TP20 probe.	RTP20 manual head with integral TP20 probe.	PH10T PLUS or PH10M PLUS motorised head with TP20 and MCR20 rack or TP200 probe and SCR200 rack.	PH10M PLUS motorised head with TP20 and MCR20 rack or TP200 probe and SCR200 rack.	PH20 motorised head with integral TP20 probe and TCR20 rack.
Warranty				
12 months from the date of customer acceptance or a maximum of 15 months from date of shipment.				

Performance

^[1] Length Measurement MPE _E (μm, L/mm) according to ISO 10360-2:2001 ^[2] Probing MPE _P (μm) according to ISO 10360-2:2001								
Manual version			Motorised version				Max.3D Velocity	Max. 3D Acceleration
MH20i with integral TP20			PH10T PLUS with TP20 PH10M PLUS with TP20 PH20 with integral TP20		PH10T PLUS with TP20 PH10M PLUS with TP20			
^[1] MPE _E	^[2] MPE _P		^[1] MPE _E	^[2] MPE _P	^[1] MPE _E	^[2] MPE _P		
[μm]							[mm/s]	[mm/s ²]
5.4.4	3.0+L/300	3.0	2.5+L/333	2.5	2.3+L/333	2.3	500	1500
6.5.4	3.2+L/300	3.2	2.7+L/333	2.7	2.5+L/333	2.5		

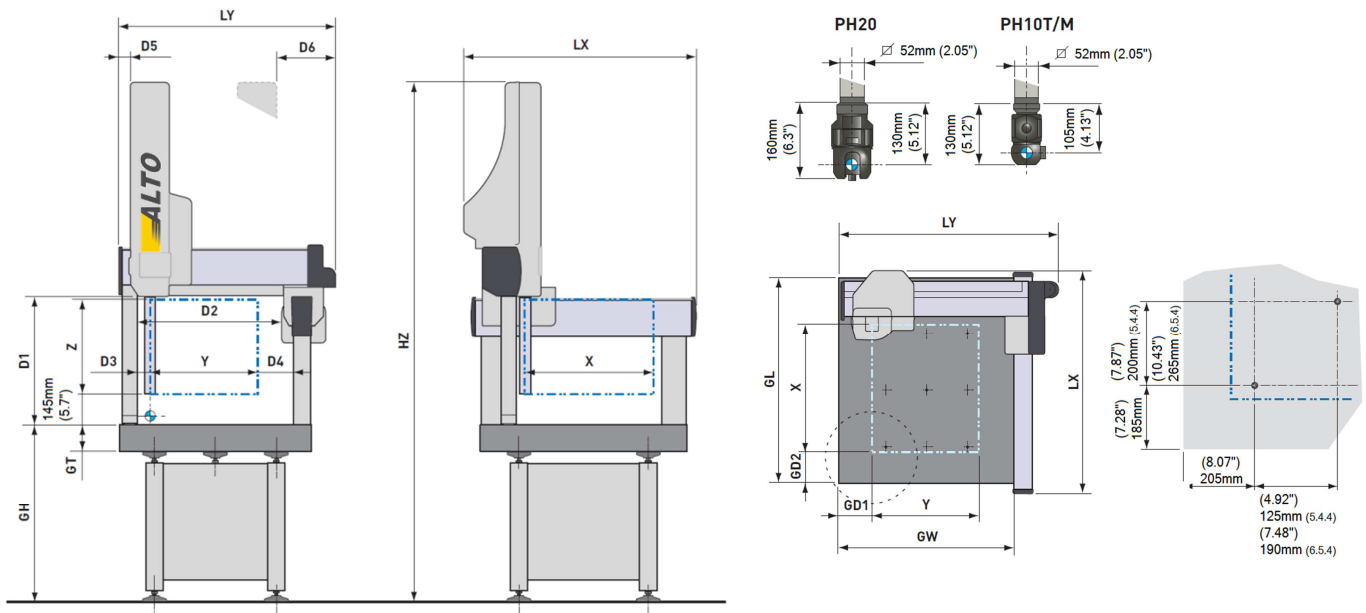
Performance criteria:-

- Standard Force stylus module with Ø4mm x 10mm stylus.

- L measured distance in mm.

- Ambient temperature range 18-22°C, maximum temperature gradients; 0.5°C/hour, 2°C/24 hours, 0.5°C per metre.

Weights and Dimensions



	Stroke			Overall			Granite Table						Clearance						Weight	
	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	kg (lb)
5.4.4	500 (19.7)	400 (15.7)	440 (17.3)	929 (36.6)	888 (35.0)	2411 (94.9)	830 (32.7)	100 (3.9)	830 (32.7)	673 (26.5)	135 (5.3)	135 (5.3)	598 (23.5)	537 (21.1)	49 (1.9)	141 (5.6)	53 (2.1)	252 (9.9)	300 (661)	300 (661)
6.5.4	600 (23.6)	400 (15.7)	440 (17.3)	1044 (41.1)	1018 (40.0)	2411 (94.9)	830 (32.7)	100 (3.9)	960 (37.8)	803 (31.6)	150 (5.9)	150 (5.9)	598 (23.5)	670 (26.4)	64 (2.5)	156 (6.1)	68 (2.7)	267 (10.5)	300 (661)	390 (860)

^[3] With PH20 head Z measuring stroke reduced to 410mm (16.1”).



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