



Datasheet

AEROS S

Coordinate Measuring Machine

40.20.20

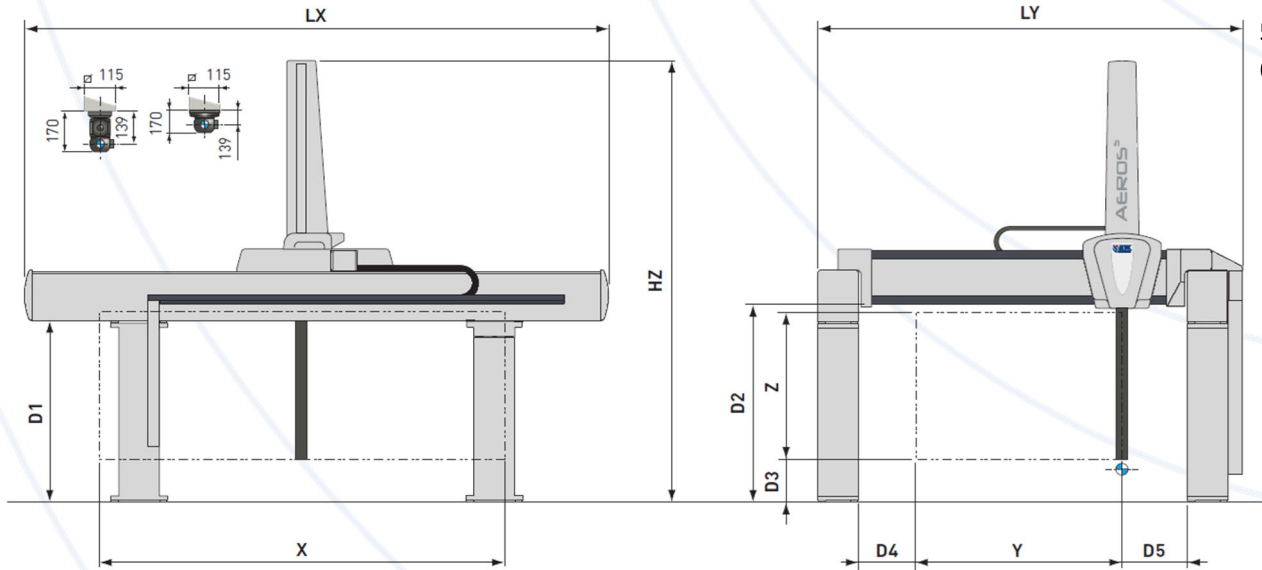
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TECHNICAL DATA | Dimension

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	Travels			Overall			Daylights					No. of Pillars	Max. Part Weight	CMM Weight
	X	Y	Z	LX	LY	HZ	D1	D2	D3	D4	D5			
40.20.20	4000 (157)	2000 (79)	2000 (79)	5750 (226)	4154 (164)	5387 (212)	2242 (88)	2412 (95)	332 (13)	567 (22)	642 (25)	2 + 2	10000 (22046)	on request
50.20.20	5000 (197)	2000 (79)	2000 (79)	6750 (266)	4154 (164)	5387 (212)	2242 (88)	2412 (95)	332 (13)	567 (22)	642 (25)	3 + 3	10000 (22046)	on request
70.20.10	6000 (236)	2000 (79)	2000 (79)	7750 (305)	4154 (164)	5387 (212)	2242 (88)	2412 (95)	332 (13)	567 (22)	642 (25)	3 + 3	10000 (22046)	on request

TECHNICAL DATA | Specification

TOUCH PROBE ACCURACY ¹ (TS/DD twin scale/dual drive)		TP20 ² PH10T/M/MQ PLUS	T200 ³ PH10T/M/MQ PLUS	SP25M PH10M/MQ PLUS	RSP2 REVO2	RSP3 REVO2
ISO 10360 -2:2009						
Length measurement at 18°C to 22°C	E0 MPE E150 MPE	on request	on request	on request	on request	on request
ISO 10360 -4:2001						
Probing accuracy scanning mode	form MPE Tij time MPT t	-	-	on request	on request	on request
ISO 10360 -5:2010						
Probing accuracy touch mode	form PFTU MPE	on request	on request	on request	on request	on request

LASER SCANNER ACCURACY ⁴		LC15Dx	LC60Dx	L100	XC65Dx	XC65Dx-LS
ISO 10360 -8:2013						
Probing form	PForm.Sph.1x25 :Tr:ODS,MPE	7.0	20	15	25	35
Probing dispersion	PForm.Sph.D95% :Tr:ODS,MPL	7.6	36	26	48	60
Probing size All	PSize.Sph.All :Tr:ODS,MPE	15.0	30	20	45	80
Cone angle		100	125	125	115	125

Conformance is proven when all errors of indication lie within or on the accuracy specification limits MPE/MPL.

Conformance is unproven when one or more errors of indication lie outside the accuracy specification limits MPE/MPL.

¹ Touch probe accuracy specifications using manufacturer specified test lengths and test sphere with empirical qualification.

E0 MPE E150 MPE
MPE Tij MPT t
PFTU MPE

Maximum volumetric length measurement error in microns where L is the measured length in millimetres.
Maximum single stylus form error in microns using scanning mode with time taken in seconds.
Maximum single stylus form error in microns using touch point mode.

² TP20 standard force 5-way module, PS17R Ø4x20mm stainless steel shaft stylus.

³ TP200 standard force module, PS17R Ø4x20mm stainless steel shaft stylus.

⁴ Laser scanner accuracy specifications for CMM with an accuracy of 2+L/350 or better using manufacturer specified test sphere with empirical qualification.

PForm.Sph.1x25:Tr:ODS,MPE
PForm.Sph.D95%:Tr:ODS,MPL
PSize.Sph.All:Tr:ODS,MPE
Cone angle

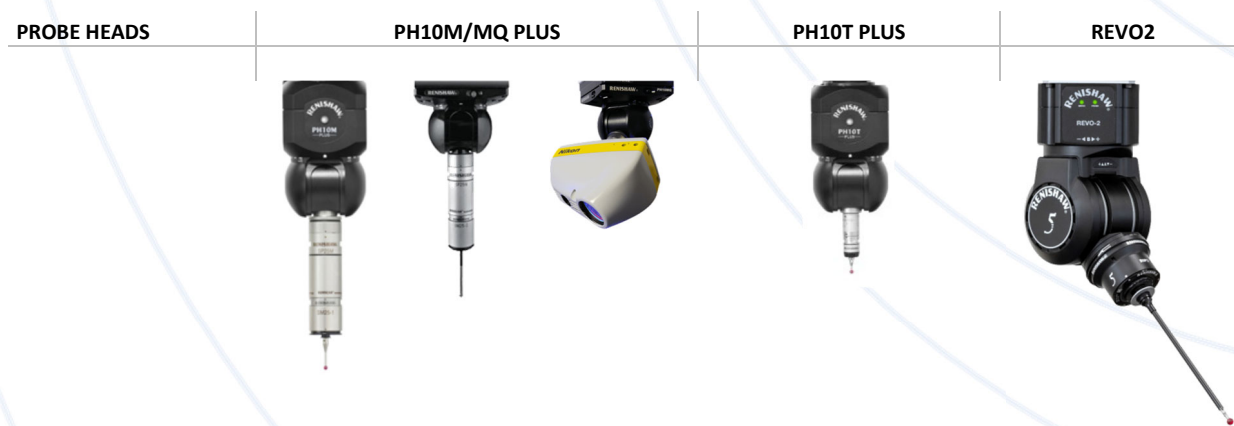
Maximum probing form error in microns using 25 representative points in translatory scanning mode.
Maximum probing dispersion value in microns using 95% of the measured points in translatory scanning mode.
Maximum probing size error All in microns using all measured points in translatory scanning mode.
Region of sphere on which the measured points are selected.

SPEEDS

Acceleration	800mm/sec ²
Velocity	530mm/sec

TECHNICAL DATA | Probing

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Head type	Indexing head	5-axis head
Head positions	720	Infinite
Angular tilt	0° to +105° in 7.5° steps	-100° to +120°
Angular rotation	0° to ±180° in 7.5° steps	Continuous
Probe change rack	MRS	MRS

TOUCH PROBES	TP20	TP200	SP25M	TP20	TP200	RSP2	RSP3
Probe type	Touch trigger	Touch trigger	Scanning	Touch trigger	Touch trigger	Tip sensing	Scanning
Min. stylus diameter	0.3 (0.012)	0.3 (0.012)	0.5 (0.02)	0.3 (0.012)	0.3 (0.012)	0.3 (0.012)	0.5 (0.02)
Max. stylus length	60 (2.4)	100 (3.9)	400 (15.7)	60 (2.4)	100 (3.9)	400 (15.7)	800 (31.5)
Max. probe extension	300 (11.8)	300 (11.8)	100 (3.9)	300 (11.8)	300 (11.8)	-	-
Min. probing force	0.055 N	0.02 N	0.1 N	0.055 N	0.02 N	0.05 N	0.1 N
Stylus change rack	MCR20	SCR200	FCR25	MCR20	SCR200	RCP2	FCR25

LASER SCANNERS	LC15Dx	LC60Dx	XC65Dx/-LS	L100	-	-
Laser line width	15 (0.6)	60 (2.4)	3x 65 (2.6)	100 (3.9)		
Points/sec	70k	75k	75k	200k		
Resolution	22 µm	60 µm	65 µm	42 µm		
Standoff	68	125	107/202	135		

PERIPHERALS		
Controller	NMC300	UCC S5
Controller mounting	Cabinet	Cabinet
Handbox	SOLO	MCU 5
Rotary Table	●	●
Automation	●	-

- Optional
- Not available

mm (inch)

TECHNICAL DATA | Design

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TECHNICAL FEATURES

X axis guideway	Stabilised welded steel beams
Y axis guideway	Stabilised welded steel beams
Z axis guideway	Micromachined anodized light alloy extrusion
X axis friction drive	Rack and pinion system, optional dual drive
Y axis friction drive	Rack and pinion system
Z axis friction drive	Zero hysteresis friction drive
Linear encoders	0.1µm resolution optical linear transducers
Air bearings	Air bearings on all axes
Temperature compensation	Automatic temperature compensation for work piece and all axes

ENVIRONMENTAL REQUIREMENTS

Ambient temperature	Standard temperature range: 18°C to 22°C
Temperature gradient	Standard temperature range: 1°C/h 2°C/24h 1°C/m
Operating temperature	15°C to 35°C
Relative humidity	40% to 80% non-condensing
Acceptable Vibration (acceleration between peaks)	30 mm/s ² from 1 and 10 Hz 15 mm/s ² from 10 and 20 Hz 50 mm/s ² from 20 and 100Hz

SUPPLY REQUIREMENTS

Power supply	Voltage: 230 V Frequency: 50Hz Max. Current: 16 A Installed Power: 1600 W
Air consumption	Max. 300 NI/min
Air supply	Min. air supply pressure 6.0 bar (87.0 psi)

WARRANTY

12 months warranty as standard, extended warranty available on request
Terms and conditions apply see LK Metrology website for full details