

Dynascan 2017

a multi axes computer controlled ultrasonic immersion scanning system

NIPSCAN-LAB HARDWARE SPECIFICATIONS (standard)

IMMERSION TANK AND WATER SYSTEM

Inner tank dimensions LxWxD	1250 x 850 x 650 mm
Bottom and one side walls	Stainless steel
Three side walls	Safety glass, 20 mm
Water filter pump capacity	2000 l/hr.
Water filter grain	25 micron, 1 filters
Empty Weight	approx 450Kg

GANTRY-SYSTEM X, Y-AXES

Travel distance <u>X-axis</u>	1050 mm
Motor	Linear stepper with air bearing on granite and stainless steel

X-axis

Position accuracy	0,1 mm/m
Resolution	0,01 mm (open loop)
Repeatability	<0,02 mm
Backlash	0,05 mm
Velocity	150 mm/sec max.
Acceleration	300 mm/sec ² max.
Limit switches	both ends minus 25 mm

Travel distance Y-axis

	600 mm
Motor	Linear stepper with air bearing on granite and stainless steel

Y-axis

Position accuracy	0,1 mm/m
Resolution	0,01 mm (open loop)
Repeatability	<0,02 mm
Backlash	0,05 mm
Velocity	250 mm/sec max.
Acceleration	500 mm/sec ² max.
Limit switches	both ends minus 25 mm

Z-AXIS

Travel distance <u>Z-axis</u>	550 mm
Motor	Stepper with gearbox

Z-axis

Position accuracy	0,1 mm/m
Resolution	0,01 mm (open loop)
Repeatability	<0,02 mm
Backlash	0,05 mm
Velocity	75 mm/sec max.
Acceleration	200 mm/sec ² max.
Limit switches	both ends

TRANSDUCER ANGULATION UNIT Gimle Swivel/Gimble Gimble

Range Primary (<u>B</u>) axis	270°
Motor	Stepper
B-axis	
Position accuracy	0,10°
Resolution	0,02°
Repeatability	0,02°
Backlash	0,10°
Velocity / Acceleration	20°/sec / 45°/sec ²
Range Secondary (<u>A</u>) axis	400° GS/ 90° GG
Motor	Stepper

A-axis

Position accuracy	0,10°
Resolution	0,01°
Repeatability	0,02°
Backlash	0,10°
Velocity/ Acceleration	20°/sec / 45°/sec ²

C-axis TURNTABLE

Diameter	500 mm (opt 700mm)
Weight (excl. adaptor)	100 kg
Max. axial load	400 kg
Wobble (fixture)	0,04 mm
Concentricity (fixture)	0,04 mm
Parallelism to X and Y axis	0,1 mm/m
Perpendicular to Z-axis	0,1mm/m
Motor	Direct drive, 3 phase
Speed max.	3 RPS
Resolver resolution	614.400 p/rev
Resolver accuracy	± 30 ARC-sec
Repeatability	0,005°
Backlash	<0,002°

E-axis CHUCK

Chuck accuracy	0.1mm
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L-axis Lift (loading / unloading)

Range	500 mm
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AIR SUPPLY

Yes

ELECTRICAL POWER

Nom.	2 kW
	1 phase 220V 50Hz or

SYSTEM CONTROLLER

Dell Dual core Windos 7 PC, 4GB RAM, 1TB Hard disk
 DVD rewritable
 24" Dell LCD monitor
 200Mhz A/D data acquisition board
 Galil Ethernet motion controller
 Remote controller with LCD display

ULTRASONIC USPC4100 (RPR50)

Sample freq	200Mhz
Ascan data acquisition	Yes
Waveform	Square / Spike
Width (squarewave)	25..250 ns
Mode	PE, SE
Falltime / Risetime	5ns / 10ns (50Ohm)
Amplitude	50..350V
Sync frequency	Max 10Khz
Gain control	0..100dB in 0.1dB steps
Bandwidth (filters off)	100Khz ..50Mhz (-3dB)
Filters	Band, Low and High pass
TCG points/ resolution	16 / 25ns
TCG slope / range	20 dB / us / -20..40dB

