

NIPSCAN

a multi axes computer controlled ultrasonic immersion scanning system

NIPSCAN HARDWARE SPECIFICATIONS (standard with 700mm chuck jaw)

IMMERSION TANK AND WATER SYSTEM

Inner tank dimensions LxWxH	1800 x 1400 x 1000 mm
Outer tank dimensions LxWxH	2250 x 1600 x upto 3000 mm
Desk dimensions LxWxH	1800 x 900 x 750 mm
Bottom and two side walls	Stainless steel
Two side walls	Safety glass, 30 mm
Water filter pump capacity	2000 l/hr.
Water filter grain	25 micron, 2 filters
Water level pilot	adjustable to any level
Weight of the machine	± 1400 Kg
When filled with water (90%)	± 3200 Kg

GANTRY-SYSTEM X, Y-AXES

Travel distance <u>X-axis</u>	1400 mm
Motors 4	Air beared, linear μ stepper
Position accuracy	0,1 mm/m
Resolution	0,004 mm (open loop)
Repeatability	0,002 mm
Backlash	0,004 mm
X-axis	
Position accuracy	0,1 mm/m
Resolution	0,01 mm (open loop)
Repeatability	<0,01 mm
Backlash	0,01 mm
Velocity	150 mm/sec max.
Acceleration	150 mm/sec ² max.
Calibration switch repeatability	<0,005 mm
Limit switches	both ends minus 40 mm

Travel distance <u>Y-axis</u>	1100 mm
Motors 3	Air beared, linear μ stepper
Position accuracy	0,1 mm/m
Resolution	0,004 mm (open loop)
Repeatability	0,002 mm
Backlash	0,004 mm
Y-axis	
Position accuracy	0,1 mm/m
Resolution	0,01 mm (open loop)
Repeatability	<0,01 mm
Backlash	0,01 mm
Velocity	150 mm/sec max.
Acceleration	250 mm/sec ² max.
Calibration switch repeatability	<0,005 mm
Limit switches	both ends minus 40 mm

Z-AXIS

Travel distance <u>Z-axis</u>	900 mm
Motor	Stepper with gearbox
Z-axis	
Position accuracy	0,1 mm/m
Resolution	0,01 mm (open loop)
Repeatability	<0,01 mm
Backlash	0,02 mm
Velocity	150 mm/sec max.
Acceleration	250 mm/sec ² max.
Calibration switch repeatability	<0,01 mm
Limit switches	both ends

TRANSDUCER ANGULATION UNIT

Range Primary (<u>B</u>) axis	270°
Motor	Stepper with gearbox 1:80
B-axis	
Position accuracy	0,05°
Resolution	0,01°
Repeatability	0,02°
Backlash	0,10°
Velocity	45°/sec
Acceleration	45°/sec ²
Range Secondary (<u>A</u>) axis	380° (Gimble/Swivel)
Motor	Stepper with gearbox 1:100
A-axis	
Position accuracy	0,05°
Resolution	0,01°
Repeatability	0,02°
Backlash	0,05°
Velocity	45°/sec
Acceleration	45°/sec ²

TURNTABLE

Diameter	700-1250 mm
Weight (excl. adaptor)	200 kg
Max. axial load	850 kg
Wobble (fixture)	0,04 mm
Concentricity (fixture)	0,04 mm
Chuck accuracy	0,1mm
Parallelism to X and Y axis	0,1 mm/m
Perpendicular to Z-axis	0,05°
Motor	Direct drive, 3 phase
Speed max.	1 RPS
Resolver resolution	614.400 p/rev
Resolver accuracy	± 30 ARC-sec
Repeatability	0,005°
Backlash	<0,002°

AIR SUPPLY

Maximum pressure	10 bar
Minimum pressure	6 bar

ELECTRICAL POWER

Nom.	4 kW
Max	6 kW
	3 phase 380/220V 50Hz

SYSTEM CONTROLLER

Pentium IV, 4GB RAM, 500 GB Hard disk
24" LCD monitor
Interface board for UT instrument (Socomate USPC7100/RPR50 vAmsterdam or optional)
7 axis Ethernet motion controller
Remote control with LED display, Joystick, & position wheel