

Machining Systems		Nanoform® 350 and Nanoform 700 Specification criteria			
Base/Control	Machine Type	Multi-Axis Contouring System			
	Machine Base	Natural, high-stability, fullysealed, impala granite/steel frame			
	Vibration isolation	Self leveling dual chamber vibration isolation			
	Control System	UPx 1.0 - 1.0nm Resolution			
	Operating system	QNX Rev. 4.0			
SlideWay Design	Swing Capacity	N350- 350mm (14") diameter - with riser: 450mm (18")		N700- 700mm (28") diameter - with riser: 1016mm (41")	
	SPDT Performance	Typical results from standard test sample - Surface Roughness - 2.0nm RA Form Accuracy - 0.1µm P-V			
	Type	Hydrostatic Box-type Slideways			
	Material	DuraBar Cast Iron			
	X -Travel	350mm (14")			
	Z -Travel	250mm (10")			
	Maximum feedrate	1500mm/min. (59"/min.)			
	Drive system	AC Linear Motor			
	Position Feedback Resolution	8.6 or 1.4nm			
	X-Axis straightness Horz.	0.3µm (12µ")			
	Z-Axis straightness Horz.	0.3µm (12µ")			
Workholding Spindles	X- Vertical / Horizontal Stiffness	438 N/µm / 438 N/µm (2,500,000 lbs/in.)			
	Z- Vertical / Horizontal Stiffness	438 N/µm / 438 N/µm (2,500,000 lbs/in.)			
	C-Axis/ Workholding Spindles	Standard: Precitech SP150 Spindle	Optional: Precitech NT151 Spindle	Optional: Precitech SP75 Spindle	Optional: Professional Instruments 5.5
	Type	Precitech built Air bearing spindle with slot type thrust bearing.			Groove compensated air bearing
	Material	Steel shaft/bronze journal			Steel shaft/aluminum anodized journal
	Load capacity @ nose / 50mm (2") out	68Kg (150 lbs) / 48Kg (105 lbs)	68Kg (150 lbs) / 57Kg (125 lbs)	18 Kg (40 lbs.) /	46Kg (101lbs.) /
	Axial stiffness @ 100 PSIG	228 N/µm (1,300,000 lbs/in.)	261 N/µm (1,500,000 lbs/in.)	70 N/µm (400,000 lbs/in.)	140N/µm (800,000 lbs/in.) @120 PSI
	Radial stiffness @ 100 PSIG @ spindle nose	88 N/µm (500,000 lbs/in.)	105 N/µm (600,000 lbs/in.)	22 N/µm (125,000 lbs/in.)	88 N/µm (500,000 lbs/in.)@ 120PSI
	Motion accuracy	Axial/Radial ≤ 25nm (1µ")	Axial/Radial ≤ 50nm (2µ")	Axial/Radial ≤ 50nm (2µ")	Axial/Radial ≤ 25nm (1µ")
	Thermal control	Liquid cooled motor housing /Journal bearing			
	Drive amplifier	DC Brushless Sin Drive			3-phase DC Brushless
	C-axis feedback resolution	0.05 - 0.72 arc-sec	0.13 - 2.16 arc-sec	0.05 - 0.72 arc-sec	0.06 arc-seconds
	C-axis position accuracy	+/- 2.0 arc-sec			
	C-axis maximum speed	275 RPM	800 RPM	275 RPM	2000 RPM
Workholding spindle maximum speed	2500/5000/7000 RPM	6000 RPM	15,000 RPM	10,000 RPM	
Included features	Mechanical locking mechanism, non-influencing vacuum feed through				
Tooling Spindles	High Speed Tooling Spindles	Standard: Precitech SP75FF Spindle		Optional: Professional Instruments 2.25	
	Type	Precitech built Air bearing spindle with slot type thrust bearing.			
	Material	Steel shaft/Bronze journal		Steel shaft/Aluminum anodized journal components	
	Maximum speed	15,000 RPM		50,000 RPM	
	Standard swing capacity	125mm Diameter.			
	Load capacity @ nose / 50mm (2") out	18 Kg (40 lbs.) / 11Kg (25 lbs.)		20Kg (44 lbs.) /	
	Axial stiffness @ 100 PSIG	70 N/µm (400,000 lbs/in.)		68.6 N/µm (392,000 lbs/in.)	
	Radial stiffness @ 100 PSIG @ spindle nose	26 N/µm (150,000 lbs/in.)		22.6 N/µm (130,000 lbs/in.)	
	Motion accuracy	Axial/Radial ≤ 50nm (2µ")		Axial/Radial ≤ 50nm (2µ")	
	Mounting location	Vertical, horizontal, 45 degree or on Rotary B-axis		Vertical, horizontal, 45 degree or on Rotary B-axis	
	Thermal control	Liquid cooled motor housing/Journal Bearing		Liquid cooled motor housing	
Drive amplifier	3-phase		3-phase		
Rotational B-Axis	Rotary B-Axis	Precitech HydroRound B-Axis SMALL (N350)		Precitech HydroRound B-Axis LARGE (N700)	
	Type	Bi-conical, self compensated, oil hydrostatic			
	Material	High-Alloy Steel		High-Alloy Steel	
	Standard swing capacity	200mm (8") Diameter.		300mm (12") Diameter.	
	Load capacity (limited by Z table)	225Kg (500 lbs.) (safety factor of 3)		455Kg (1000 lbs.) (safety factor of 6)	
	Axial stiffness	525 N/µm (3,000,000 lbs/in.)		1750 N/µm (10,000,000 lbs/in.)	
	Radial stiffness	175 N/µm (1,000,000 lbs/in.)		525 N/µm (3,000,000 lbs/in.)	
	Motion accuracy	Axial/Radial ≤ 0.10µm (4µ").		Axial/Radial ≤ 0.10µm (4µ").	
	Coning Error	1.0nm/mm (1.0µ"/in.)		1.0nm/mm (1.0µ"/in.)	
	Drive amplifier	3-phase		3-phase	
	Feedback resolution	Available 0.036-0.36 arc-sec		Available 0.027-0.27 arc-sec	
Position accuracy	+/- 2.0 arc-sec (compensated)		+/- 2.0 arc-sec (compensated)		
Maximum speed	10 RPM continuous - 50 RPM Intermittant		10 RPM continuous - 50 RPM Intermittant		
Utilities	Machine Utilities	Nanoform® 350 and Nanoform® 700 Platform			
	Power	208 or 230VAC -1 phase - 50/60Hz			
	Air supply	Typical: 12 SCFM @100PSIG			
	Floor space - machine footprint	1930mm x 1220mm x 2043mm (76" x 48" x 80")			
Floor space - w/control/peripherals	2930mm x 3807mm x 2043mm (115" x 150" x 80")				

Standard specifications are subject to change without notice. Product Specifications may also be adjusted to specific customer requirement.