XYZAX SVA NEX

Dedicated catalog is available.

XYZAX SVA NEX 9/10/6

Redesigning the long-selling SVA series from scratch enhances the high-accuracy furthermore. New option for energy-saving is ready.

High measuring accuracy

Max. permissible indication error
E0, MPE: 1.8 + 4 L/1000 µm
*Corresponds to new standard JIS B7440-2013 (ISO 10360-2009)

New design

A high-end machine of NEX series Unified concept of FUSION NEX design

LED light NEW

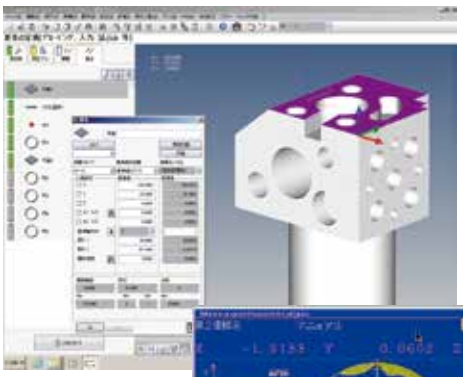
LED light emblaze your hands and every details of workpiece.

Air Saver function NEW

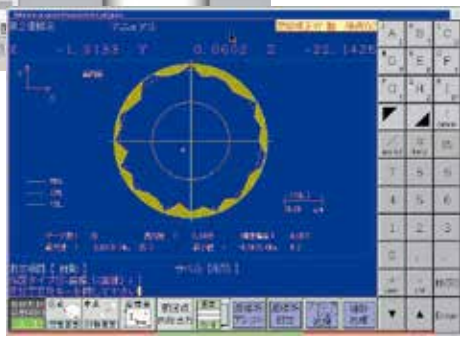
This is a function of automatic suspension to supply compressed air during the machine waiting time. After suspended, compressed air is automatically supplied as when Joy stick operation and CNC measuring starts. This function helps to save energy and running cost by eliminating wasteful compressed air supply, like idling stop function for vehicles.

Selectable software; Calypso or XYANA

(general-purpose measuring program)



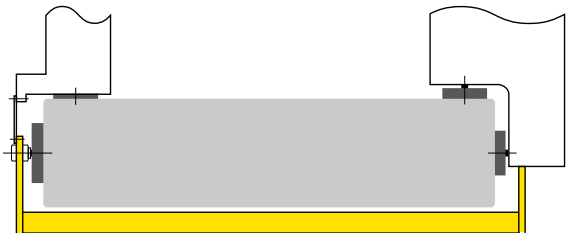
Calypso



XYANA2000

Maisonette Bridge Structure for Outstanding Dynamic Rigidity

The Y-axis guide surface generally has a second guide surface (sub-guide) on the right side of the table. The maisonette bridge structure provides guide surfaces on both sides of the table, which eliminates the chance of variations in sub-guide connectors (screws, adhesives, etc.) over time. This simplifies the structure, which improves rigidity and simplifies guide plate processes for higher accuracy.



For the Y-axis, all guide surfaces facilitate table processes, for guide surfaces whose stability and accuracy remain high over long periods. This structure has been patented by Tokyo Seimitsu.

Newly developed A.V.D. (Anti-Vibration Drive) mechanism suppresses vibration during Z- (up and down) direction drive

Vibration during Z-axis drive is caused by uneven rotation of the drive motor itself, and a simple friction drive causes motor vibration to be transmitted directly to the Z-axis. The SVA NEX machine employs a mechanism whereby the Z-axis is driven via a thin steel belt, which reduces vibration. An air cylinder balance in the Z-axis weight balance mechanism reduces weight, which produces a new-concept double-pulley system for a more compact configuration.

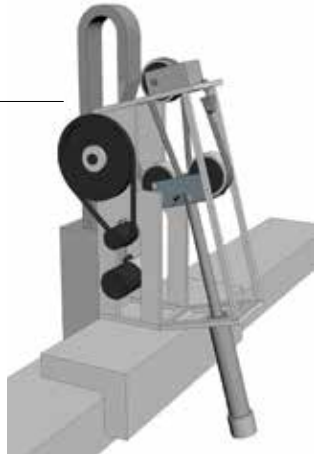
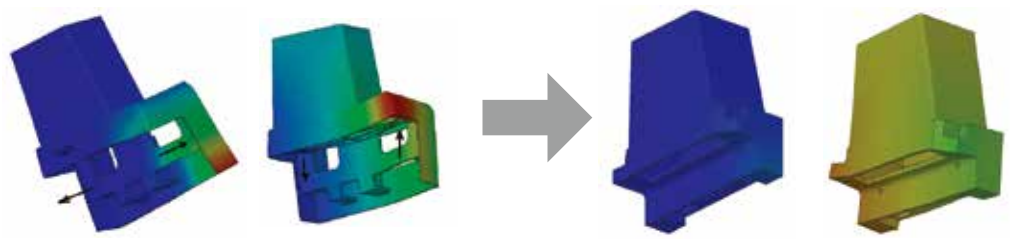


Image of Z-axis motor configuration
A drive belt minimizes motor vibration transmission to the Z-axis.

CAE Analysis and Monocoque Construction for Improved Mechanical Rigidity* and Lighter Weight

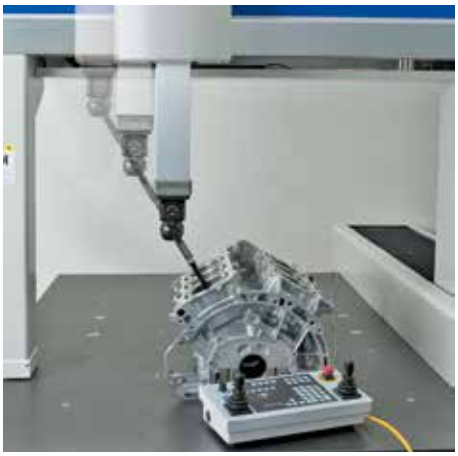
***150% better than previous models**



The ideal right Y-column design (modularized components, lightweight, improved rigidity) obtained using CAE provides SVA series machines with higher speed characteristic and lower repeatability error for high speed and high accuracy. Compared with previous models, the SVA-A measuring machine provides 1.5 times more rigidity overall.

Compact Operation Panel Controls All Basic Operation Measuring

Joystick-based movement of each axis is supported both for mechanical coordinates and workpiece coordinates. Workpiece coordinate-based movement simplifies the approach to slanted surfaces, deep holes, etc.
A movement speed control knob is enabled both for joystick operation and CNC drive operation, providing reliable safety checks and operation in tight locations.



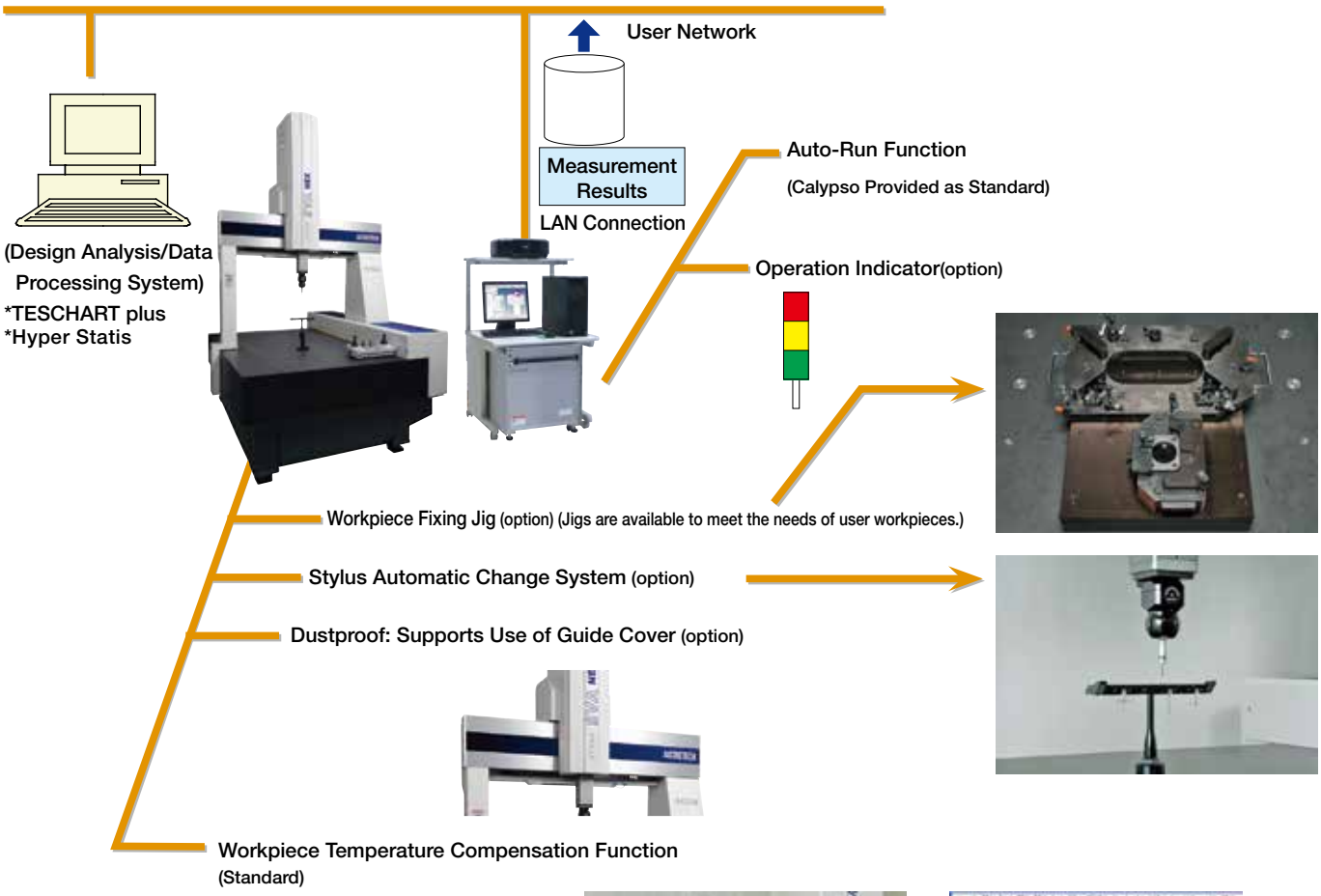
Slanted surface, deep hole approach

Movement speed control knob operation

Manufacturing site oriented applications (Case: SVA automatic in-line system)

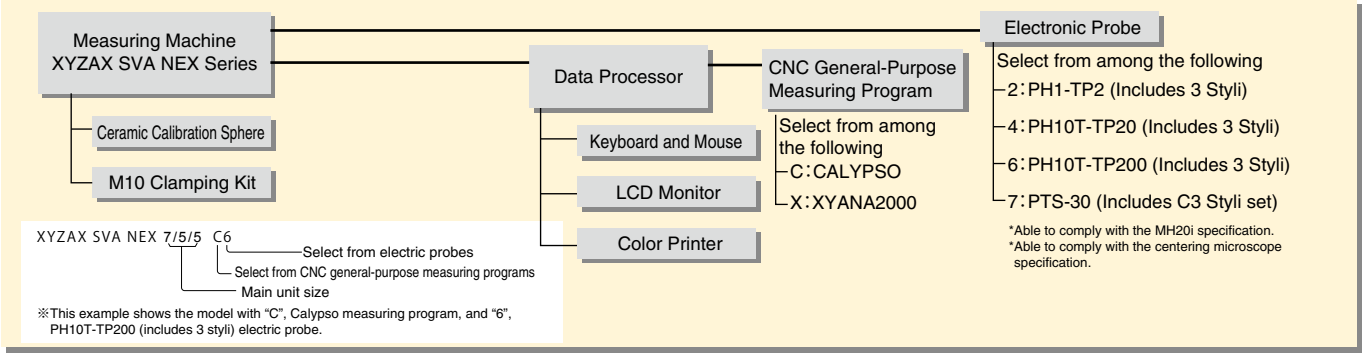
Objective of Implementation

- Enhance production line flexibility — Facilitate multi-item capability (utilizing CNC parts program)
- From measuring room, to production line — Production-floor based quality control
- Reduce costs for special-purpose jigs — Improve jig versatility



The measuring machine and workpiece temperatures are controlled in accordance with the measuring environment's influence on the measuring machine.

Basic System Configuration



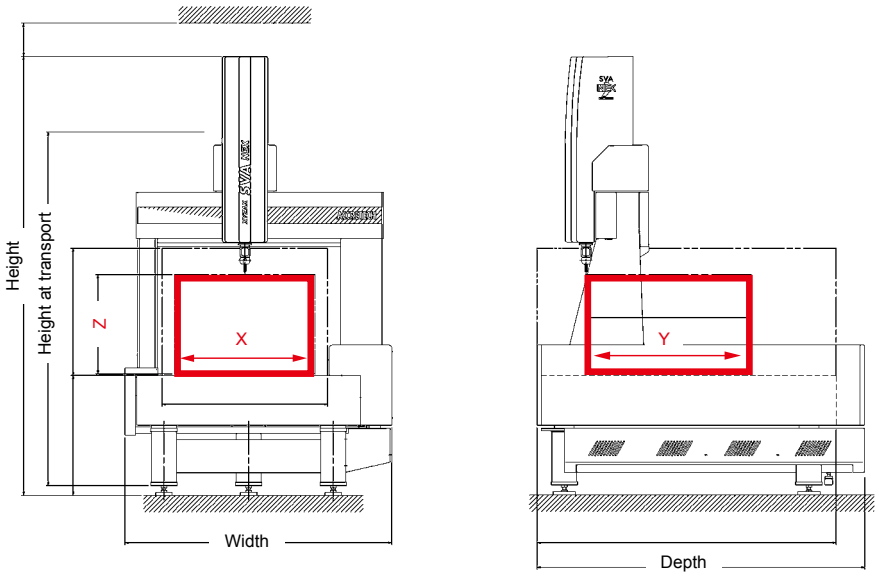
Specifications

Model			XYZAX SVA NEX												
			7/5/5	9/6/6	9/10/6	9/15/6	10/10/6	10/12/6	10/15/6	10/10/8	10/12/8	10/15/8	12/15/10	12/20/10	12/25/10
Measuring range	X-axis (mm)		650	850			1000						1200		
	Y-axis (mm)		500	600	1000	1500	1000	1200	1500	1000	1200	1500	1500	2000	2500
	Z-axis (mm)		450	600						800			1000		
Measuring length scale			Linear scale												
Minimum display value			0.01												
Measuring accuracy With TP200	Maximum permissible error of length meassurement : $E_{0, MPE}$ (μm) $E_{150, MPE}$ (μm)	Temperature condition: A	1.8 + 4L/1000 2.3 + 4L/1000			2.3 + 4L/1000 2.8 + 4L/1000				3.0 + 5L/1000 3.5 + 5L/1000			3.4 + 5L/1000 3.9 + 5L/1000		4.5 + 5L/1000 5.0 + 5L/1000
		Temperature condition: B	2.4 + 4L/1000 2.9 + 4L/1000		2.9 + 4L/1000 3.4 + 4L/1000		2.9 + 5L/1000 3.4 + 5L/1000								
	Repeatability:$R_{0, MPL}$ (μm)		1.5			1.8	1.8			2.3			2.8		3.3
	Maximum permissible single-stylus form error: $P_{FTU, MPE}$ (μm)		2.0			2.4	2.4			2.8			3.2		4.5
Table	Material		Gabbro												
	Usable width (X) (mm)		800	1000			1150			1150			1370		
	Usable depth (Y) (mm)		1270	1370	1810	2410	1910	2110	2310	1910	2110	2410	2410	3010	3510
	Height from floor (mm)		725				725			630			630	680	
	Flatness		JIS Class 1												
Workpiece	Max. height (mm)		620	770			770			970			1170		
	Max. weight (kg)		400	800	1000	1500	1000	1200	1500	1000	1200	1500	1500		1000
Driving speed	Max. acceleration (mm/s²)		1700							1200			700		
	Variable speed range(mm/sec)		CNC measurement mode: Max.425 mm/sec (stepless variable) Joystick mode: 0 to 120 mm/sec (stepless variable)												
Guide system of each axis			Air bearing												
Air supply	Supply pressure/working pressure (MPa)		0.49 to 0.69 / 0.39												
	Air consumption (NL/min)		40							60			65		
Power supply	Voltage (V/%), consumption (VA)		AC100±10 (grounding required), 1500												

	Temperature condition: A	Temperature condition: B
Ambient temperature (°C)	18 to 22	16 to 26
Temperature change (°C/hour)	1.0	2.0
Temperature change (°C/day)	2.0	5.0
Temperature gradient (°C/m)	1.0	1.0

*Evaluation methods for 3D Coordinate Measuring Machines;
$E_{0,MPE}$/ $E_{150,MPE}$/ $R_{0,MPL}$: Conformity to JIS B 7440-2:2013(ISO 10360-2:2009
$P_{FTU,MPE}$: Conformity to JIS B 7440-5:2013(ISO 10360-5:2010)
*L in $E_{0, MPE}$/$E_{150, MPE}$ is the distance between any two points (mm)
*Measurement accuracy is based on use of standard stylus.
Standard stylus specification (TP200) :
Stylus tip diameter = Φ4, L=20 mm, Custom stylus of RENISHAW.

External View and Dimensions SVA NEX



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Dimensions (mm)	Width	1415	1615			1765						1965		
	Depth	1440	1540	1980	2580	2080	2280	2480	2080	2280	2580	2580	3180	3680
	Height	2458	2658			2658			2963			3363	3413	
Machine height at transport (mm)		2050	2200			2200			2260			2460	2510	
Weight (kg)		1450	1600	2700	3500	3150	3350	3500	3200	3400	3700	4500	6300	7700

*Be sure to check the height of passageways, and, in particular, the height of doors and other openings to be used when the machine is delivered.The height of openings needs to be the specified each machine height at transport plus about 200 mm to allow for the dollies used to move the machines.
*Controller and computer rack are also included

●Models that can be modified to lower the stand or shorten the Z-axis stroke to reduce the installation height are also available. Contact us for details.