

## Delivering world-renowned Carl Zeiss scanning technology to all of our users...

# XYZAX SVA fusion

## CNC 3D Coordinate Measuring Machines

**A combination of ACCRETECH and Carl Zeiss technologies**

Combines XYZAX and world-renowned **Active Scanning**.  
Includes the Calypso measuring program and **AI Function** (patented internationally by Tokyo Seimitsu).  
Makes scanning so simple, just about anyone can do it.



### Zeiss patented Thermo-Fit

No thermal expansion or contraction due to temperature change (1/20th that of steel), light weight, high rigidity

### Stylus Auto

Allows use of styluses up to 500g and high-accuracy measuring even with unbalanced combinations.

### Long Stylus Support (500mm max.)

High-accuracy deep-hole workpiece inside diameter measuring



### Tensor Calibration (Deflection Compensation Technology)

High-accuracy probing from any direction



3D Coordinate Measuring Machines

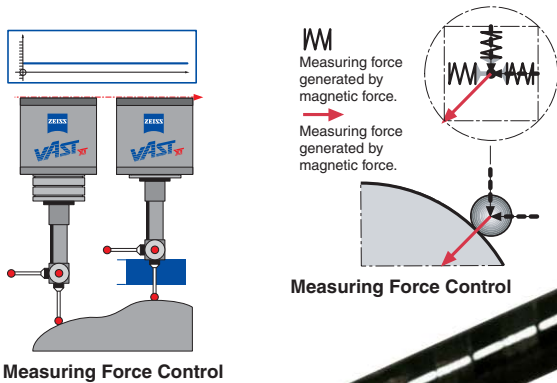


**Actual Size**

## Active Control Scanning Probe

### VAST XT

Maintaining a constant measuring force while applying measuring pressure in the normal direction (perpendicular to the surface) is made possible only by Carl Zeiss through their Active Scanning Technology.



**Stylus Auto Change**  
Interchangeable Probe with High Reproducibility



**Maximum Permissible Scanning Error**  
Maximum permissible scanning error guaranteed with long stylus.  
Length: Less than  $MPH_{THP}$   $5.8\mu m$  at 340mm

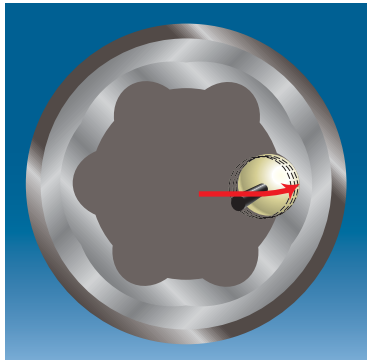


**Balance**



### Self-centering scanning

When probing grooves with a ball that matches the groove form, the ball moves to the bottom of the groove for easier groove center measuring.



### Large Scanning Movement Range

$\pm 2mm$  scanning movement range allows scanning measuring even when the position of the workpiece being measured is shifted.

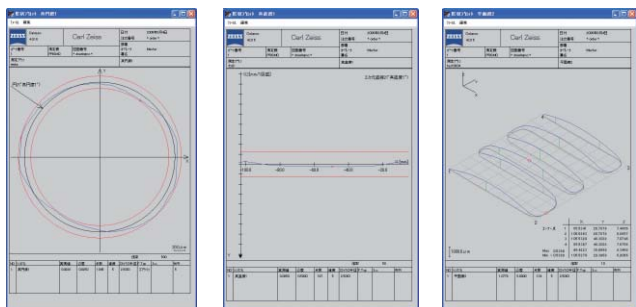


## Calypso General-purpose Measuring Program

The combination of an SVA fusion machine and the Calypso general-purpose measuring program maximizes the power of active scanning.

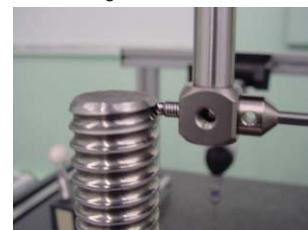
### Geometric Deviation Evaluation

SVA fusion machines enable data sampling up to 200 points per second. In addition to geometric deviation (circle, straight line, etc.), evaluation of roundness, straightness, flatness, and other geometric deviation evaluation also can be performed.



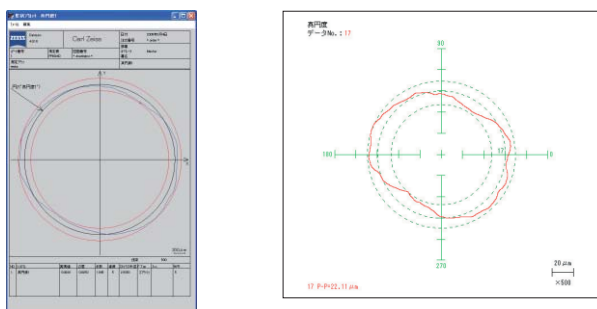
### Self Centering

Self centering measuring for V-grooves, ball screw grooves, and other grooves is supported. This outstanding function is made possible only through active scanning.



### Roundness Filter Provided

A filter is provided based on roundness standards for analysis using the same methods as a roundness measuring machine.



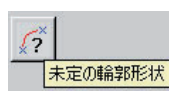
Calypso Roundness Measuring Result

RONDCOM Roundness Measuring Result

### Unknown Form Scanning

Scanning measurement of circle segments (circles, cylinders, spheres, cones) can be performed without configuring setting values.

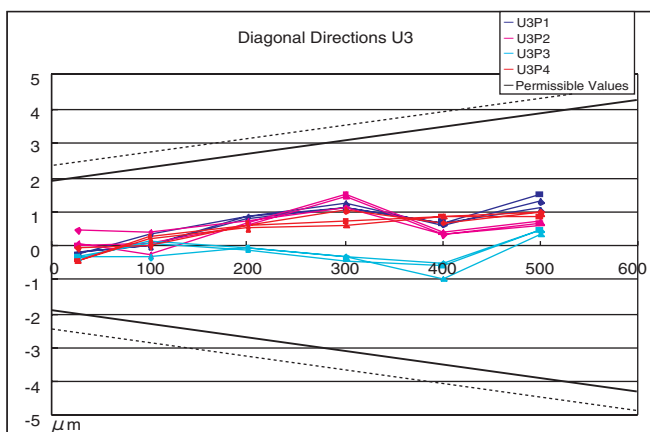
#### Icon



[Execute now] starts scanning measurement of a circle element without configuration of design value settings.



### Outstanding Actual Values



Measuring accuracy is for SVA fusion 9/6.

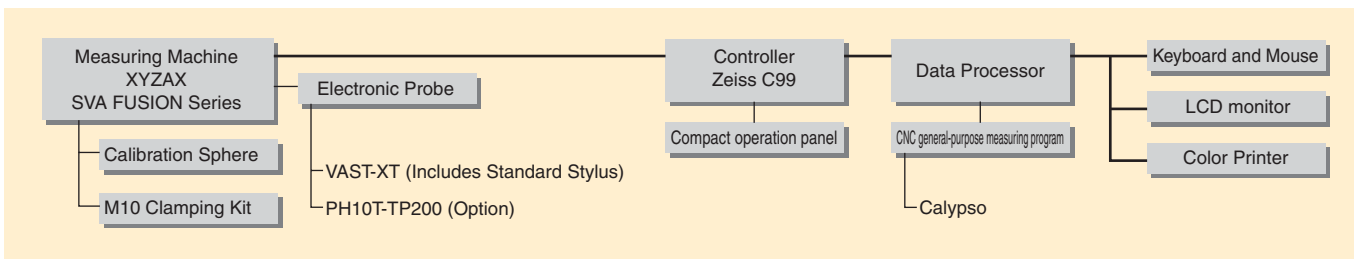
### Regional Straightness, Roundness, Flatness

Calypso can analyze the straightness, roundness, or flatness of a specified area.

### PH10T Compatible

PH10T can be installed as an option. A probe auto recognition function shortens startup time after changes.

### Main System Configuration



## Specifications

Model		SVA fusion									
		7/5/5*2	9/6/6*2	9/10/6*2	9/15/6*2	10/10/6 10/10/8	10/12/6 10/12/8	10/15/6 10/15/8	12/15/10	12/20/10	
Measuring Range	X-axis (mm)	650			850		1000			1200	
	Y-axis (mm)	500	600	1000	1500	1000	1200	1500	1500	2000	
	Z-axis (mm)	450			600		600/800			1000	
Measuring Scale		Steel scale									
Minimum Display Value		0.01 μm									
Measuring Accuracy	Maximum Permissible Indication Error*1 MPE <sub>E</sub>	1.9+4L/1000 μm (Temperature Conditions C)				2.4+4L/1000 μm (Temperature Conditions C)	2.4+5L/1000 μm(Z600)(Temperature Conditions C)			3.5+5L/1000 μm (Temperature Conditions A only)	
	Maximum Rated Probing Error*1 MPE <sub>P</sub>	1.9 μm(Temperature Conditions C)				2.4 μm (Temperature Conditions C)	2.4 μm(Z600)(Temperature Conditions C)			3.4 μm (Temperature Conditions A only)	
	Maximum Rated Scanning Error*1 MPE <sub>THP</sub>	2.8 μm (Note 1); 5.8 μm (Note 2) (Temperature Conditions C)				2.8 μm(Z600)(Note 1) (Temperature Conditions C)		3.0 μm(Z800)(Note 1)(Temperature Conditions A only)			4.0 μm(Note 1) (Temperature Conditions A only)
Probe VAST-XT	Measuring System	Scanning measuring, point measuring									
	Stylus Length/Weight/Tip Diameter	Max. Length: 500mm; Max. Weight: 500g/Min.Ø0.6mm									
Table	Usable Width (X) (mm)	800	1000			1150			1370		
	Usable Depth (Y) (mm)	1270	1370	1810	2310	1810(Z600) 1910(Z800)	2010(Z600) 2110(Z800)	2310(Z600) 2410(Z800)	2410	3010	
	Height from Floor (mm)	725				725(Z600), 600(Z800)			600	650	
Workpiece Measured	Max. Height (mm)	620	770			770(Z600), 970(Z800)			1170		
	Max. Weight (kg)	400	800	1000	1500	1000	1200	1500	1500		
Drive speed	Maximum Acceleration/Deceleration	1200 mm/sec <sup>2</sup> (Z600, Z800), 700 mm/sec <sup>2</sup> (Z1000)									
	Available Speed Range	CNC Measuring Mode: 0.1 to 425 mm/sec (step-less adjustable) Joystick Mode: 0 to 120 mm/sec (step-less adjustable)									
	Measuring Speed	Joystick Measuring: 0 to 5 mm/sec (step-less adjustable)									
Air Source	Supply Pressure	0.49 to 0.69MPa									
	Air Consumption Volume	40N ℓ /min			40N ℓ /min (Z600), 60N ℓ /min (Z800)			65N ℓ /min			
Power Requirements	Voltage, Consumption	AC100V±10%, 1500VA									

\*1 MPE<sub>E</sub> (Maximum Permissible Indication Error) and MPE<sub>P</sub> (Maximum Permissible Probing Error) are based on the ISO 10360-2:2001 (JIS B 7440-2:2003) evaluation method for 3D coordinate measuring machines. Indication accuracy L is the distance between any two points (mm).

MPE<sub>THP</sub> (Maximum Permissible Scanning Error) is based on the ISO 10360-4:2001 (JIS B 7440-4:2003) evaluation method for scanning measuring.

\*2 Special accuracy needs can also be supported. Contact us for details.

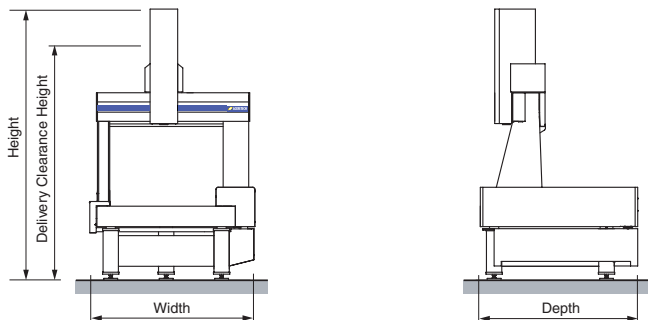
Note 1: When φ4 mm, 40 mm long stylus is used.

Note 2: When φ4 mm, 40 mm stylus and 300 mm extension shaft is used.

	Temperature Conditions A	Temperature Conditions C
Ambient Temperature (°C)	18 – 22	16 – 26
Temperature Change (°C/hour)	1.0	1.0
Temperature Change (°C/day)	2.0	2.0
Temperature Gradient (°C/m)	1.0	1.0

## External View

### SVA fusion



## Dimensions and weights

Model		SVA fusion								
		7/5/5	9/6/6	9/10/6	9/15/6	10/10/6 10/10/8	10/12/6 10/12/8	10/15/6 10/15/8	12/15/10	12/20/10
Dimensions (mm)	Width	1415	1615			1765			1965	
	Depth	1440	1540	1980	2480	1980(Z600) 2080(Z800)	2180(Z600) 2280(Z800)	2480(Z600) 2580(Z800)	2580	3180
	Height	2445	2655			2655(Z600)/2930(Z800)			3330	3380
Machine Delivery Clearance Height (mm)		2050	2200	2200	2200	2200(Z600)/2265(Z800)			2460	2510
Machine Weight (kg)		1300	1600	2700	3400	3000(Z600) 3200(Z800)	3200(Z600) 3400(Z800)	3500(Z600) 3700(Z800)	4500	6300

Be sure to check the height of passageways, and, in particular, the height of doors and other access openings to be used when the machine is delivered.

The height of access openings at delivery need to be the specified delivery clearance height of each machine plus about 200 mm to allow for the dollies used to move the machines.

\* Controller and computer rack are also included.