



XYZAX FUSION NEX

3D coordinate measuring machine that has accomplished internal evolution to further demonstrate its overwhelmingly high actual accuracy and active scanning technology



FUSION NEX
9/10/6

Highest-in-class guaranteed accuracy

Maximum Permissible Indication Error (MPE_I) 1.6 + 3L/1000 μm

Greatly improved probing stability

Maximum Permissible Probing Error (MPE_P) 1.6 μm

Active Scanning Probe

Incorporates VAST XT gold

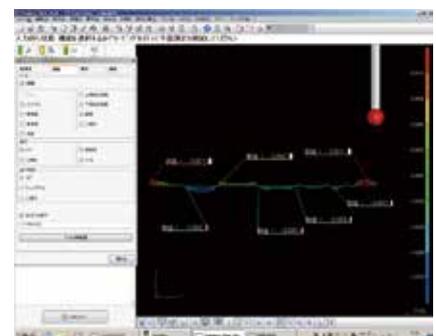
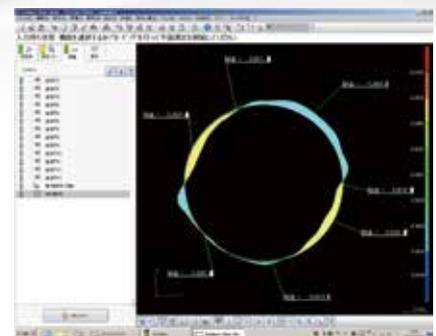
Incorporates stylus auto change function as a standard feature

Light weight with optimized A.V.D^(*) mechanism and FRP cover

*Anti Vibration Drive

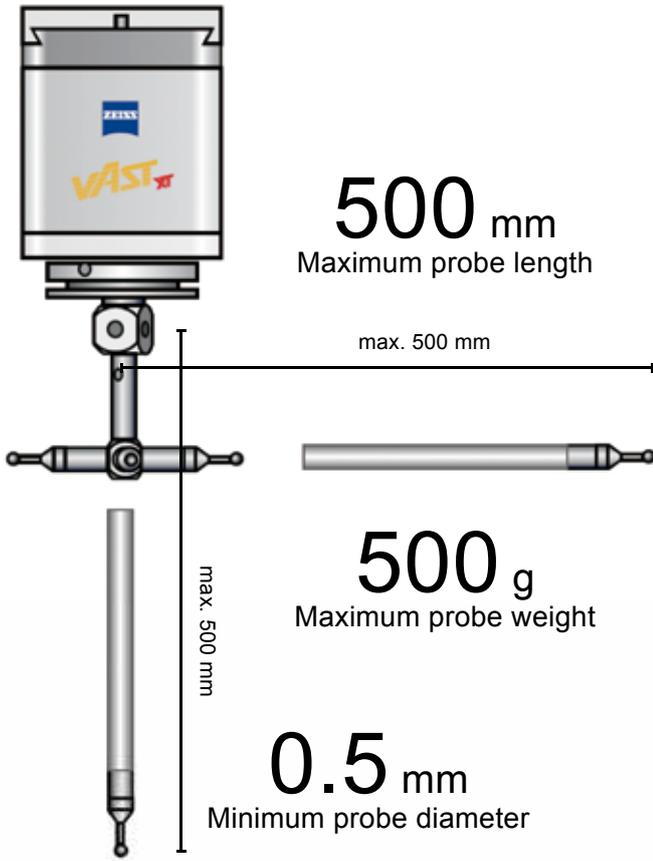
Rotary probe PH10T/M provided as an option

Evolving software Calypso



Some workpieces cannot be measured without the active scanning technology

The active scanning system is highly appreciated with many application track records, such as measurement of high-precision workpieces that require coaxiality, concentricity, flatness or straightness, evaluation of free-form surface of precision dies, high-precision measurement of deep holes that require long stylus, circumference measurement of tapered parts that requires scanning measurement, evaluation of V grooves, ball screw grooves and rack grooves and high-precision geometrical evaluation.



Incorporates active scanning probe VAST XT gold as a standard feature

The active scanning probe enables high-accuracy measurement of areas that were previously difficult to measure, because it can be fitted with a long and heavy stylus.

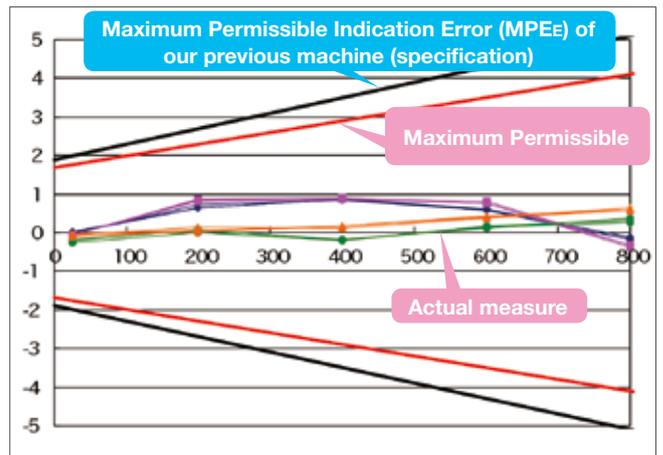
Also, as the measuring pressure is controllable, probe deflection can be accurately eliminated.

These features make it the only one probe system capable of quick and accurate measurement of not only known forms but also unknown forms.

Outstanding actual accuracy comparable to high-end machine

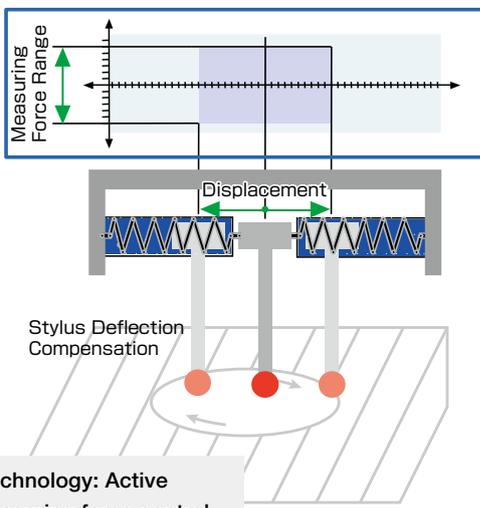
Guarantees maximum permissible indication error (MPE_E) to be $1.6 + 3L/1000 \mu\text{m}^*$ with the actual value as small as $\pm 1 \mu\text{m}$

*It is the accuracy of the size of the 9/10/6 below.



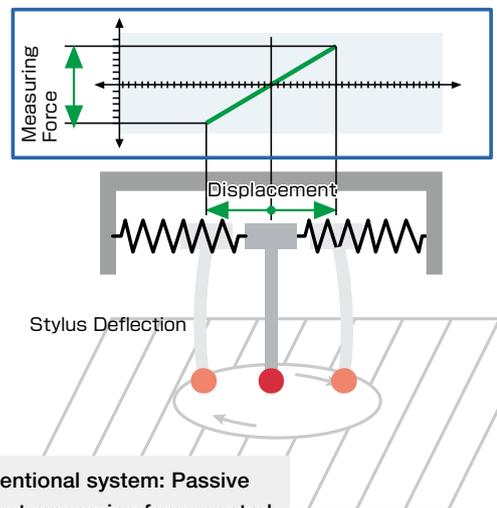
Active Scanning Technology

Active Scanning System



Magnetic force generates uniform small measuring force, which is applied in the workpiece normal direction. Because of this, stylus deflection is minimized and uniform, and accuracy is improved.

Passive Scanning System



Since a mechanical spring is used, measuring force is uneven, stylus deflection fluctuates, and accuracy cannot be improved.



FUSION NEX

Active Scanning

Is the scanning active or passive?

Specifications

Model		XYZAX FUSION 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 system													
Minimum display value		0.01 μm (0.1 μm when using TP200)													
Measuring accuracy with VAST XT gold	Max. permissible indication error MPE _E L is the distance between any two points (mm)	1.6 + 3L/1000 μm (Temperature condition A)			2.1 + 3L/1000 μm (Temperature condition A)		2.1 + 5L/1000 μm (Temperature condition C)			2.6 + 5L/1000 μm (Temperature condition A)			3.2 + 5L/1000 μm (Temperature condition A)		4.0 + 5L/1000 μm (Temperature condition A)
	Max. permissible probing error MPE _P	1.6 + 4L/1000 μm (Temperature condition C)			2.1 + 4L/1000 μm (Temperature condition C)		2.1 μm (Temperature condition C)			2.4 μm (Temperature condition A)			2.9 μm (Temperature condition A)		4.0 μm (Temperature condition A)
	Max. permissible scanning error MPE _{THP}	2.1 μm (*1), 5.3 μm (*2) (Temperature condition A and C)					2.1 μm (*1) (Temperature condition C)			2.5 μm (*1) (Temperature condition A)			3.5 μm (*1) (Temperature condition A)		4.5 μm (*1) (Temperature condition A)
Table	Material	Gabbro													
	Usable width (X) (mm)	800	1000			1150						1370			
	Usable depth (Y) (mm)	1270	1370	1810	2410		1910	2110	2310	1910	2110	2410		3010	3510
	Height from floor (mm)	725						600			650				
Workpiece	Flatness	JIS Class 1													
	Max. height (mm)	620	770					970			1170				
	Max. weight (kg)	400	800	1000	1500		1000	1200	1500	1000	1200	1500		1000	
	Max. acceleration	1200 mm/s ²											700 mm/s ²		
Driving speed	Variable speed range	CNC measurement mode: 0.01 to 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	0.49 MPa to 0.69/0.39 MPa													
	Air consumption	40 NL/min						60 NL/min			65 NL/min				
Power supply	Voltage, consumption	AC100 V ±10% (grounding required), 1500 VA													

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

*Measuring accuracy is evaluated based on MPE_E and MPE_P in accordance with JIS B 7440-2:2003 (ISO 10360-2:2001).
 *MPE_{THP} is used for evaluation in accordance with JIS B 7440-4:2003 (ISO 10360-4:2001).
 *MPE_E and MPE_P are values when the following standard stylus is used.
 *VAST-XT-gold: A stylus with the tip diameter as 8 mm and the length as 63.5 mm

Model		XYZAX FUSION 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
Outer diameter dimension (mm)	Width	1415	1615			1765						1965		
	Depth	1440	1540	1980	2580	2080	2280	2480	2080	2280	2580	3180	3680	
	Height	2458	2658					2933			3333	3383		
Machine height at transport (mm)		2050	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 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.

External View and Dimensions FUSION NEX

