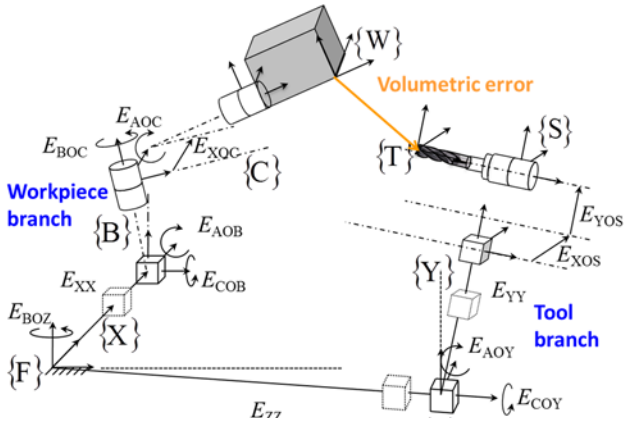
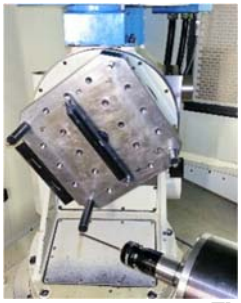
AxiSAMBA™ Method and software for five-axis machine tool geometry monitoring

Save valuable production time and reduce the risk of making bad parts by closely monitoring your machine tools with ease and automatically. The ability of a machine to position its tool affects the quality of the machined parts. These volumetric errors are caused by very small but highly disruptive deviations in the geometry of the machine. Some deviations affect the location of successive machine axes while others affect the motion of individual axes as defined in International Standard ISO 230-1:2012(E).

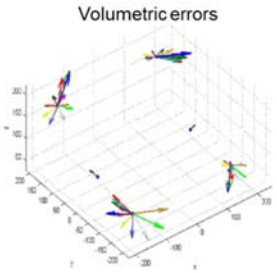


Machine with its errors as by ISO 230-1:2012(E)

Error description based on ISO230-1:2012(E)	
Workpiece branch location errors	
EAOB	Out-of-squareness angle of the B-axis relative to the Z-axis
ECOB	Out-of-squareness angle of the B-axis relative to the X-axis
EXOC	Distance between the B and C axes.
EAOC	Out-of-squareness of the C-axis relative to the B-axis
EBOC	Out-of-squareness of the C-axis relative to the X-axis
Tool branch location errors	
EBOZ	Out-of-squareness of the Z-axis relative to the X-axis
EAOY	Out-of-squareness of the Y-axis relative to the Z-axis
ECOY	Out-of-squareness of the Y-axis relative to the X-axis
Spindle location errors	
EXOS	X offset of the spindle relative to the B-axis
EYOS	Y offset of the spindle relative to the C-axis
Linear axes component errors	
EXX	Positioning linear error term of the X-axis
EYY	Positioning linear error term of the Y-axis
EZZ	Positioning linear error term of the Z-axis







The RUMBA™ method uses the probing of robust and simple pieces directly mounted on the workpiece table in no time. The SAMBA™ method adds a length reference for added traceability. Measurement is automatic using G-code and the existing machine probe.

AxiSAMBA™ is a powerful software to quantify your machine's overall accuracy so that you can avoid making bad parts. It also diagnoses the causes of those inaccuracies so you can correct the problem. User specified limits are used to issue a rapid machine status. Interactive tools guide corrective actions and support maintenance planning. Interactive mode for maintenance personnel or computer activation mode for complete automation are available. AXIMETRA offers support, sample G-code, reference artefacts and data analysis services to keep track of the precision of your five-axis machines so you can focus on making quality parts.

AXIMETRA

Aximetra Inc.
2098, boulevard des Oiseaux, Laval (Qc), Canada, H7L 0B5
+1 514 260-4407; email: info@aximetra.com; www.aximetra.com;