

ISO 10791-1:2015-02 (E)

Test conditions for machining centres - Part 1: Geometric tests for machines with horizontal spindle (horizontal Z-axis)

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Preliminary remarks	2
3.1	Measurement units	2
3.2	Reference to ISO 230-1	2
3.4	Testing sequence	2
3.5	Tests to be performed	2
3.6	Tolerances	3
3.7	Measuring instruments	3
3.8	Diagrams	3
3.9	Pallets	3
3.10	Software compensation	3
3.11	Machine configurations	3
3.12	Designation	4
3.13	Axes not under test	4
4	Geometric tests	6
4.1	Straightness errors of linear motions	6
4.2	Angular errors of linear motions	9
4.3	Squareness errors between linear motions	12
4.4	Spindle	15
	Annex A (normative) Horizontal non-rotating tables	20
	Annex B (normative) Tables rotating around a vertical B' axis	26
	Annex C (normative) Tables rotating around a vertical B' axis and tilting around a horizontal A'axis	35
	Annex D (normative) Tables rotating around a horizontal A' axis and swivelling around a vertical B'axis	50
	Annex E (informative) Error motions of tool holding spindle and work holding rotary table axes	65
	Annex F (informative) Error motions of axes of rotation of rotary and tilting tables (see Annex C)	69
	Annex G (informative) Error motions of axes of rotation of rotary and swivelling tables (see Annex D)	77
	Bibliography	85