

ISO 3070-1:2007-12 (E)

Machine tools - Test conditions for testing the accuracy of boring and milling machines with horizontal spindle - Part 1: Machines with fixed column and movable table

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terminology and designation of axes	2
4	Definition of the machining operations carried out on these machines	3
4.1	Boring operations	3
4.2	Milling operations	4
5	Special remarks concerning particular elements	4
5.1	Spindle heads	4
5.2	Tables	5
5.3	Steady blocks	5
6	Preliminary remarks	5
6.1	Measuring units	5
6.2	Reference to ISO 230-1	5
6.3	Testing sequence	5
6.4	Tests to be performed	5
6.5	Measuring instruments	6
6.6	Machining tests	6
6.7	Software compensation	6
6.8	Minimum tolerance	6
7	Geometric tests	7
7.1	Straightness and angular deviations of coordinate axes	7
7.2	Squareness between coordinate axes	13
7.3	Table	15
7.4	Indexing or rotary table	18
7.5	Boring spindle	21
7.6	Milling spindle	27
7.7	Ram	28
7.8	Integral facing head	31
7.9	Steady block	35
8	Machining tests	36
9	Checking accuracy and repeatability of positioning by numerical control	43
10	Geometric accuracy of axes of rotation of tool-holding spindles	49
Bibliography		51