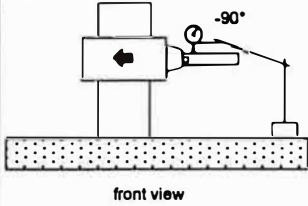
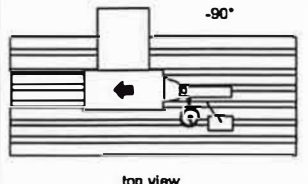
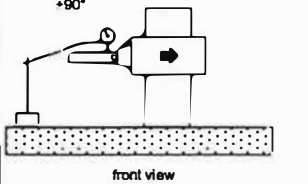
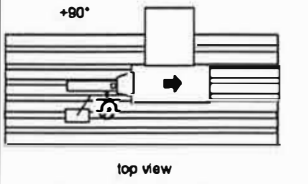
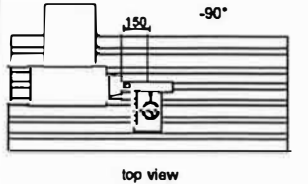
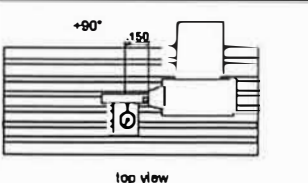


Accuracy test chart Geometrical Measurements with swivel head

DMG MORI

machine type DMF 180-7, DMF 280-11,... VHC 2-XTS	series	machine number 86954	project number
part or drawing no. / index /		serial part id	order number
custom intern		customer number	

No.	Object of measurement	Diagram	Measuring Instruments	Measuring Instructions	Deviation	
					permissible	measured
1	1a Parallelism of work spindle to longitudinal movement from the top		Dial gauge, Test arbor	Move work spindle into center position! Swivel head -90 degrees! Clamp test arbor in spindle taper! Place dial gauge from the top and set zero! Check for concentric run! Move measuring length longitudinal!	0,020mm measuring length 300mm	1a 0,015
	1b Parallelism of work spindle to longitudinal movement from the front			Place dial gauge from the front and set zero! Check for concentric run! Move measuring length longitudinal!		1b - 0,085
2	2a Parallelism of work spindle to longitudinal movement from the top		Dial gauge, Test arbor	Move work spindle into center position! Swivel head +90 degrees! Place dial gauge from the top and set zero! Check for concentric run! Move measuring length longitudinal!	0,020mm measuring length 300mm	2a 0,015
	2b Parallelism of work spindle to longitudinal movement from the front			Place dial gauge from the front and set zero! Check for concentric run! Move measuring length longitudinal!		2b + 0,032
3	3a Offset swivel head transversal		Dial gauge, Test arbor	Place dial gauge into center of table! Swivel head -90 degrees! Place dial gauge from the front, check for concentric run. Search the highest Point and set zero!	0,020 mm	3a
				Move Z-axis upwards. Swivel head +90 degrees! Move X-axis to the right and Z-axis downwards to the highest point on test arbor. Collect measured value!		

number: SM000654 / g
latest edition: 04.03.2015 / seifertl
process owner: head of quality department
page: 1 of 2

DECKEL MAHO

Seebach GmbH

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Geometrical Measurements with integrated C-axis

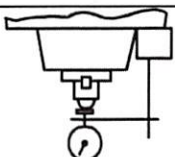
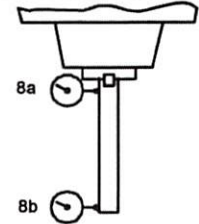
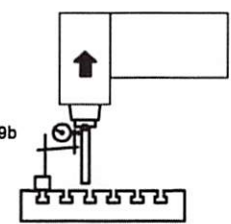
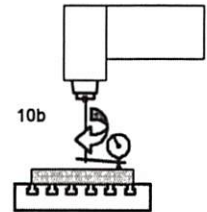
machine type DMF180-7	series		
customer	quality inspector / date	machine number	project number

No.	Object of measurement	Diagram	Measuring instruments	Measuring instructions	Deviation	
					permissible	measured
1	Table chart		Dial gauge, Test block	Position test block! Place dial gauge! Move table surface longitudinal and transversal! Collect measured values! Discard measuring points on the NC-table.	0,040 mm, measuring lgt. 700 mm x 1800 mm	1
2	Parallelism of longitudinal movement to T-slot view from the right		Dial gauge	Place dial gauge right against middle T-slot from behind! Move measuring length longitudinal! Without NC-table!	0,040 mm, measuring lgt. 1800 mm <i>800</i>	2 <i>0,02</i>
3	Parallelism of longitudinal movement to table surface		Dial gauge, Test bar	Position Test bar in the 3 positions (left, middle, right) of table! Place dial gauge on the right side of test bar and set zero! Move measuring length longitudinal!	0,030 mm, measuring lgt. 850 mm	3 left 3 middle <i>0,005</i> 3 right
4	Parallelism of transversal movement to table surface		Dial gauge, Test bar	Position Test bar in the 2 positions (left, right) of table! Place dial gauge behind of test bar and set zero! Move measuring length transversal (left and right)!	0,030 mm, measuring lgt. 700 mm	4 left <i>0,021</i> 4 right
5	Rectangularity of longitudinal movement to transversal movement		Dial gauge, Test frame	Adjust test frame parallel to the longitudinal movement! Place dial gauge behind on the right side of test frame and set zero! Move measuring length transversal!	0,030 mm, measuring lgt. 700 mm <i>500</i>	5 left <i>0,035</i> 5 right
6	Rectangularity of vertical movement to clamping face 6a longitudinal		Dial gauge, Test frame	Position test frame on the left side of table on the test bar! Move longitudinal axis in center position! Place dial gauge on the right side of test frame and set zero! Move measuring length vertical! Measurement repeat for the right side of table!	0,030 mm, measuring lgt. 700 mm	6a left <i>0,018</i> 6a right
	6b transversal			For measurement 6b position test frame transversal on the left side of table! Place dial gauge from behind and set zero! Move measuring length vertical! Measurement repeat for the right side of table!		6b left <i>0,030</i> 6b right

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title
Geometrical Measurements with integrated C-axis

machine type DMF180-7	series		
customer	quality inspector / date	machine number	project number

No.	Object of measurement	Diagram	Measuring instruments	Measuring instructions	Deviation	
					permissible	measured
7	Axial movement of work spindle		Dial gauge, Testing arbor	Clamp testing arbor in spindle taper! Place dial gauge at center and set zero! Rotate work spindle!	0,010 mm	7
8	Concentricity of inside taper of milling spindle 8a close to spindle nose		Dial gauge, Test arbor 300mm	Clamp test arbor in spindle taper! Place dial gauge as shown in 8a, 8b! Rotate work spindle! 4 measurements at a time (Clamping to 90 degrees displaced) To average over the measurements!	0,010 mm	8a <i>0,011</i>
	8b at a distance of 300mm to spindle nose				0,020 mm	8b <i>0,065</i>
9	Parallelism of work spindle to vertical movement 9a longitudinal		Dial gauge, Test arbor 300mm	Move work spindle into center position! Clamp test arbor in spindle taper! Place dial gauge of the right side and set zero! Check for concentric run! Move measuring length vertical! For measurement 9b place dial gauge from the front and set zero! Move measuring length vertical!	0,020 mm, measuring lgt. 300 mm	9a <i>0,020</i>
	9b transversal					9b <i>0,032</i>
10	Measurement with swing motion of work spindle. 10a longitudinal		Dial gauge, Test bar Cranked arm 150mm	Move work spindle into center position! Position test bar in the center of table longitudinal! Clamp cranked arm with dial gauge in spindle taper! Position dial gauge on the right side on test bar and set zero! Turn cranked arm 180 degrees! Collect measured value. Measurement repeat for the right side of table! For measurement 10b position test bar transversal! Place dial gauge behind and set zero! Collect measured value for the left side and right side of table!	0,020 mm, Ø 300 mm	10a left
						10a right
	10b transversal					10b left
						10b right

Z-value: -