HEIDENHAIN

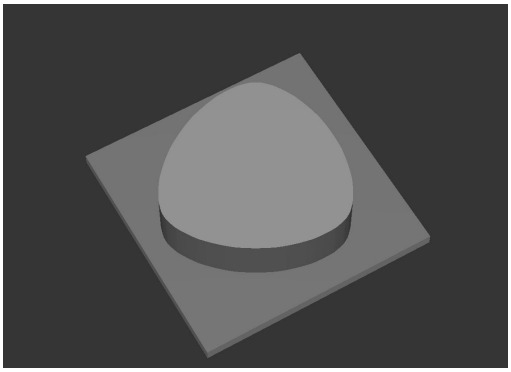
NC Solutions

Description of NC program 2135

English (en)
8/2017

1 Description of the NC program 2135_en.h

NC program for milling a stud in the shape of a P3G polygon as per DIN 32711



Description

With this NC program, the control mills a P3G polygon stud as per DIN 32711. At program start, you define the tool and all the parameters required for machining.

Then the control starts the machining operation. After the conversion of the coordinates into the center of the polygon, the subprogram LBL1 is assigned in a Cycle 14. In this subprogram 1, the control calculates the contour of the polygon. The contour consists of individual points, for which the control calculates the X coordinate and the Y coordinate. The control then approaches the calculated point in a linear block. The control repeats this calculation and positioning process until the contour is closed. The control processes the calculated contour with Cycle 25.

After completion of the machining operation, the tool is retracted, the control resets all coordinate conversions, and the control ends the NC program.

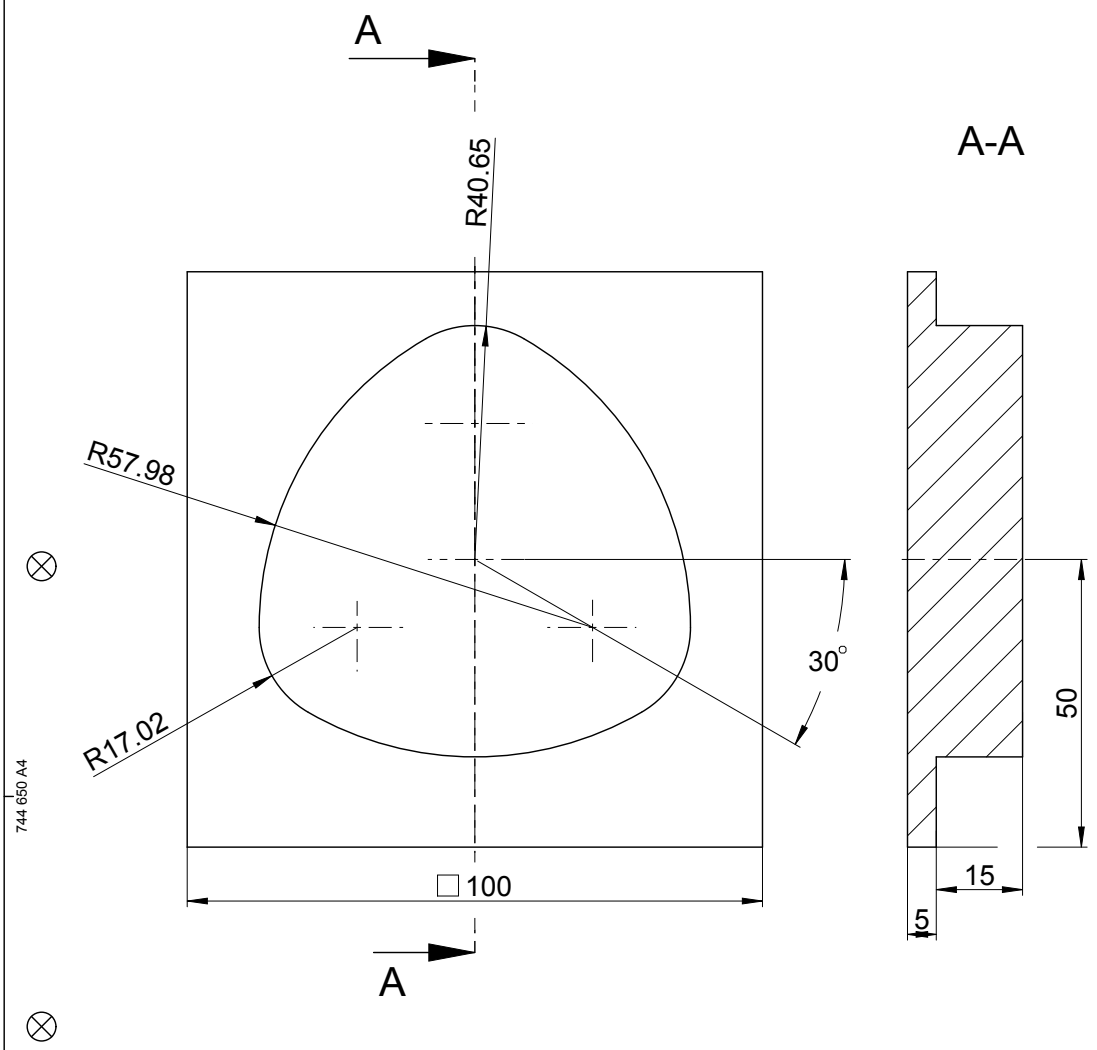
Parameter	Name	Meaning
Q50	MILLING DEPTH	Depth of the stud
Q51	PLUNGING DEPTH	Incremental depth at which the control feeds the tool along the tool axis.
Q52	SET UP CLEARANCE	The Z-axis clearance between the tool and workpiece surface; the clearance is approached by the control in rapid traverse before machining
Q53	FEED RATE FOR PLUNGING	Traversing speed of the tool in the Z axis
Q54	FEED RATE FOR MILLING	Traversing speed of the tool during machining
Q30	ORBIFORM DIAMETER (d1)	Orbiform diameter of the polygon see "P3G polygon as per DIN 32711", page 3
Q31	ECCENTRIC SIZE (e)	Eccentric size of the polygon see "P3G polygon as per DIN 32711", page 3
Q36	CENTER OF THE POLYGON IN THE X AXIS	The X coordinate of the center of the polygon
Q37	CENTER OF THE POLYGON IN THE Y AXIS	The Y coordinate of the center of the polygon
Q38	ROTATION	Angle at which the coordinate system is rotated around the center of the polygon
Q32	STARTING ANGLE	Polar angle at which the contour train begins

P3G polygon as per DIN 32711

Geometric dimensions that you need in order to produce a stud with program 2135_en.h

Nominal size	Orbiform diameter (d1)[1)]	Eccentric size (e)[1)]
14	14	0.44
16	16	0.5
18	18	0.56
20	20	0.63
22	22	0.7
25	25	0.8
28	28	0.9
30	30	1
32	32	1.12
36	36	1.25
40	40	1.4
45	45	1.6
50	50	1.8
55	55	2
60	60	2.25
65	65	2.45
70	70	2.8
75	75	3.15
80	80	3.4
85	85	3.55
90	90	4
95	95	4.25
100	100	4.5

1) Dimensions in mm



				ID number
Text:				Change No. C000941-10 Phase: Nicht-Serie
	Original drawing Scale	Format	Platte Plate	Werkstoff: Material:
RoHS	1:1	A4		
Maße in mm / Dimensions in mm			Einzelteilzeichnung / Component Drawing	●blanke Flächen/Blank surfaces
Werkstückkanten nach ISO 13715 Workpiece edges ISO 13715 -0.3 +0.3			Allgemeintoleranzen ISO 2768-mH ≦6mm: ±0,2 General tolerances ISO 2768-mH ≦6mm: ±0,2	Tolerierung nach ISO 8015 Tolerances as per ISO 8015 Oberflächenbehandlung: Surface treatment:
				Oberflächen nach ISO 1302 Surfaces as per ISO 1302

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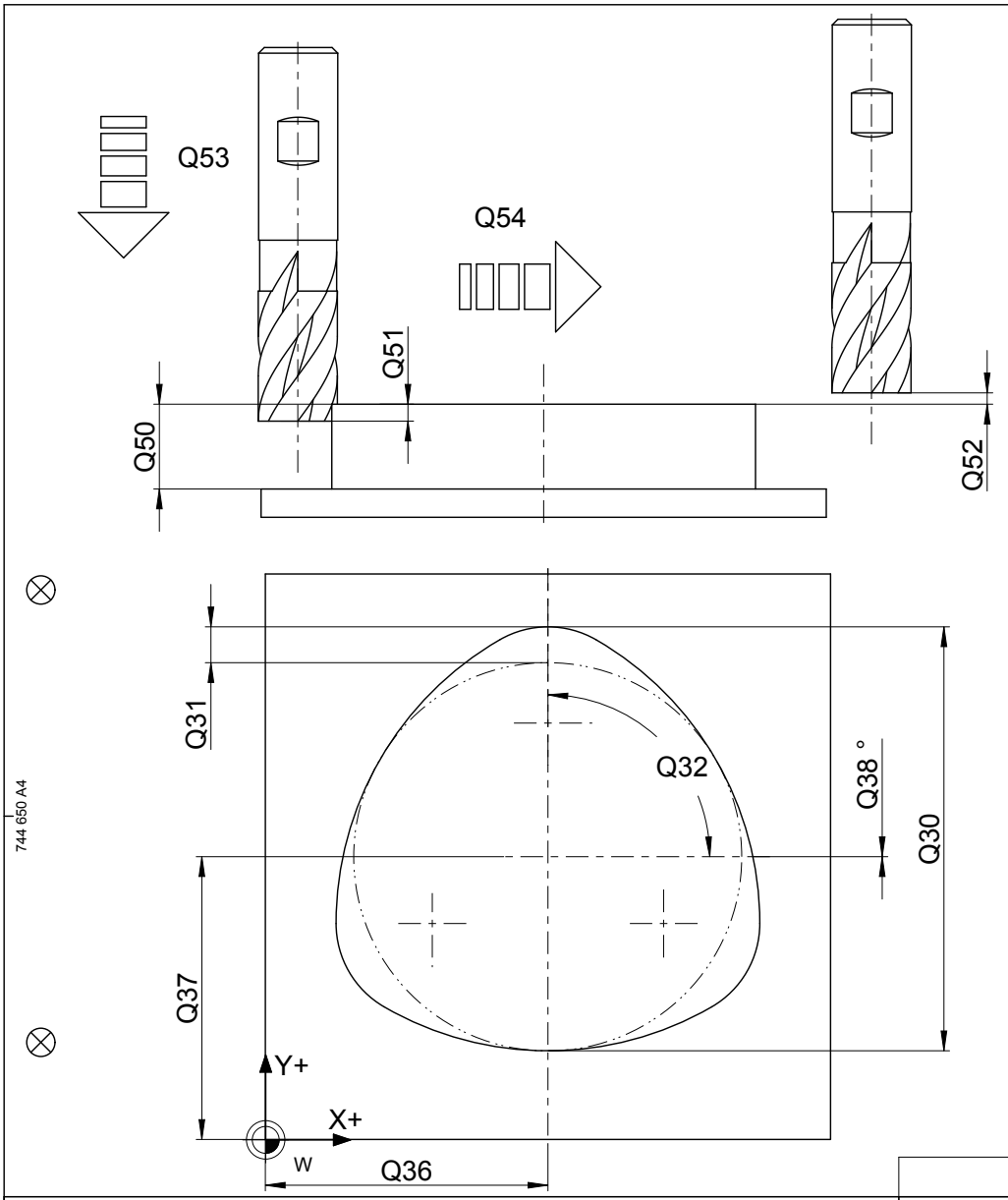

			ID number
Text:			Change No. C000941-10 Phase: Nicht-Serie
Original drawing Scale / Format	Bausatz Assembly kit Montage-ZZ / Assembly Drawing		Werkstoff: Material:
RoHS / 1:1 / A4			
Maße in mm / Dimensions in mm			●blanke Flächen/Blank surfaces
Werkstückkanten nach ISO 13715 Workpiece edges ISO 13715 -0.3 +0.3	Allgemeintoleranzen ISO 2768-mH ≦6mm: ±0,2 General tolerances ISO 2768-mH ≦6mm: ±0,2	Tolerierung nach ISO 8015 Tolerances as per ISO 8015 Oberflächenbehandlung: Surface treatment:	Oberflächen nach ISO 1302 Surfaces as per ISO 1302

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