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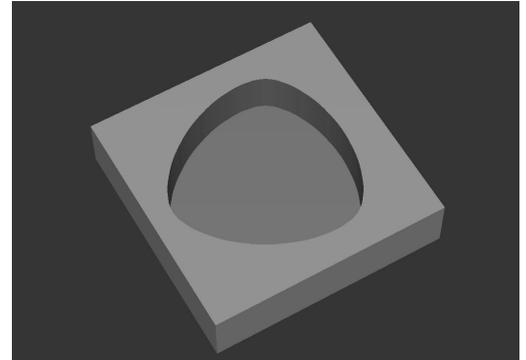
NC Solutions

Description of NC program 2130

1 Description of the NC program 2130_en.h

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

Description

With this NC program, the control mills a P3G polygon pocket in accordance with 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 roughs out the calculated contour with Cycles 20 and 22.

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 pocket
Q51	PLUNGING DEPTH	Incremental depth at which the control feeds the tool along the tool axis.
Q52	SET UP CLEARANCE	Z-axis clearance between the tool and workpiece surface; the control approaches this clearance in rapid traverse.
Q53	FEED RATE FOR PLUNGING	Traversing speed at which the tool travels in the Z axis
Q54	FEED RATE FOR MILLING	Traversing speed of the tool during machining
Q30	ORBIFORM DIAMETER	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	X coordinate of the center of the polygon
Q37	CENTER OF THE POLYGON IN THE Y AXIS	Y coordinate of the center of the polygon
Q38	ROTATION	Angle at which the coordinate system is rotated around the center of the polygon

P3G polygon as per DIN 32711
Geometric dimensions that you require to machine a pocket with
the program 2130_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

A

A-A

R40.65

R57.98

R17.02

30°

50

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□ 100

15

20

A

		ID number		
Text:		Change No.	C000941-10	
		Phase:	Nicht-Serie	

	Original drawing		Platte	Werkstoff: Material:
	Scale	Format		
RoHS	1:1	A4	Plate	
Maße in mm / Dimensions in mm		Einzelteilzeichnung / Component Drawing		●blanke Flächen/Blank surfaces
Werkstückkanten nach ISO 13715 Workpiece edges ISO 13715		Allgemeintoleranzen ISO 2768-mH ≦6mm: ±0,2 General tolerances ISO 2768-mH ≦6mm: ±0,2	Tolerierung nach ISO 8015 Tolerances as per ISO 8015	Oberflächen nach ISO 1302 Surfaces as per ISO 1302
-0.3 +0.3			Oberflächenbehandlung: Surface treatment:	

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	09.08.2017			Document number				

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Q53

Q54

Q51

Q50

Q52

A-A

2 x Q31

Q38 °

Q30

A

A

Q37

Y+

X+

W

Q36

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

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