



HEIDENHAIN



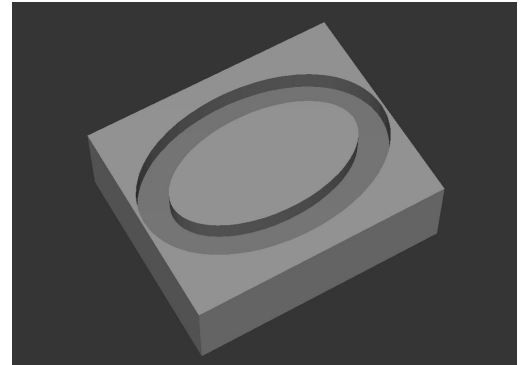
NC solutions

Description of NC program 2070

English (en)
9/2017

1 Description of the NC program 2070_en.h

NC program for milling an elliptical path



Description

With this NC program, the control calculates and mills an elliptical path. For this purpose, the control divides the tool path into linear paths, which it then moves through. The PITCH parameter allows you to influence the number of linear movements and thus the accuracy of the elliptical contour.

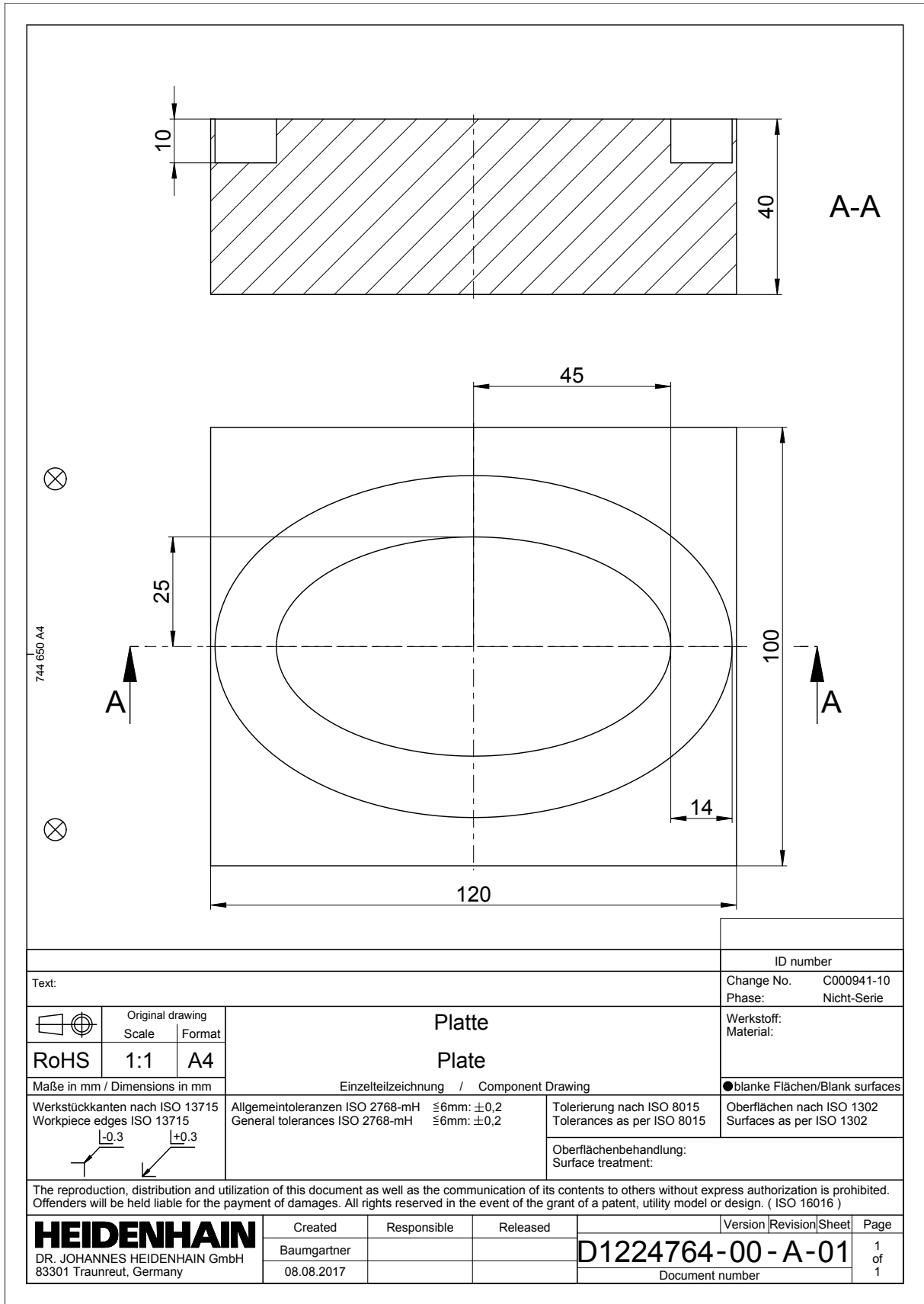
At program start, you define the tool and all of the parameters required for machining.

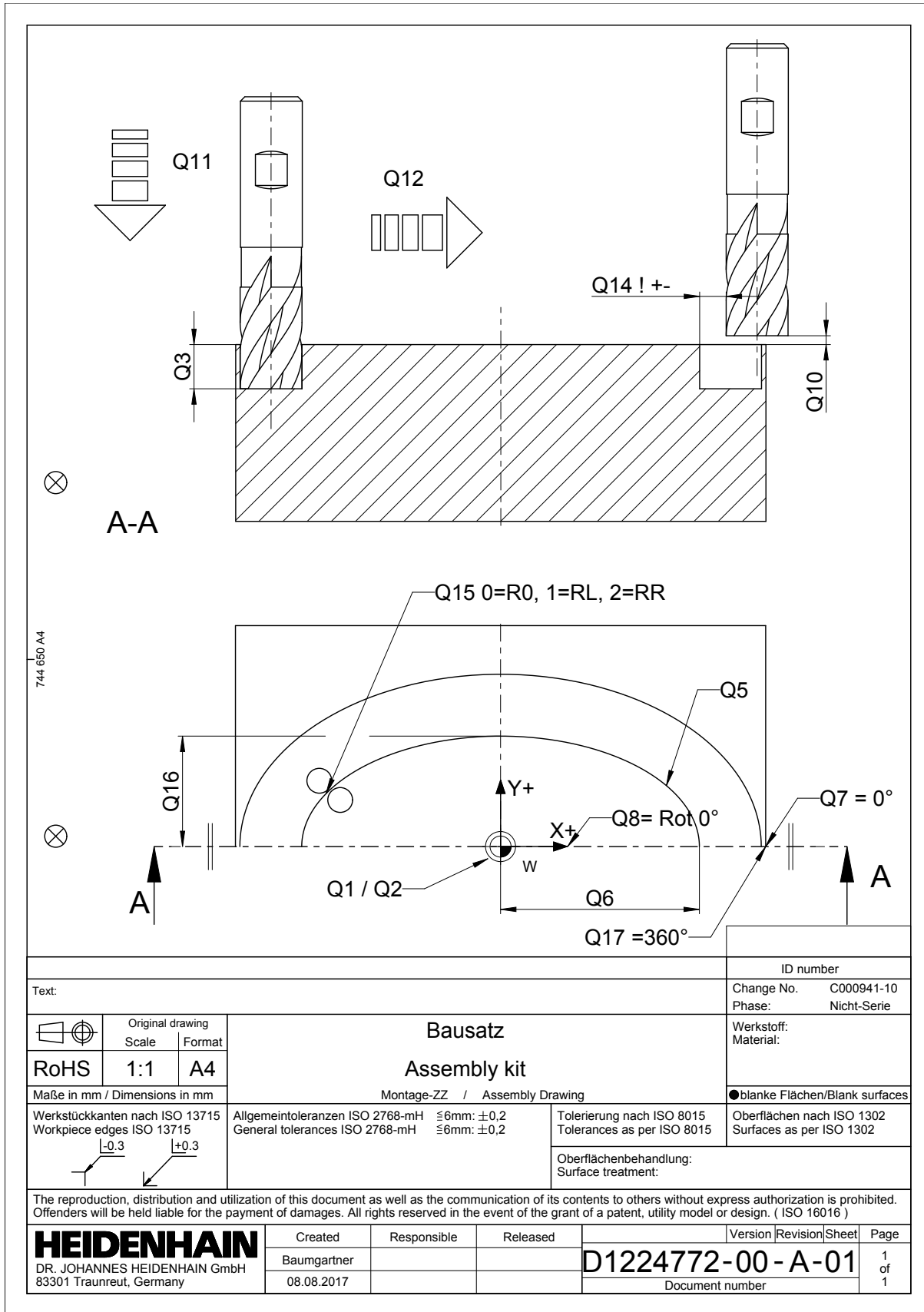
The control then calls a subprogram. The control performs all of the calculations and path contours in this subprogram. During the first step in the subprogram, the control shifts the datum to the center of the ellipse and rotates the coordinate system by the value of the defined rotation. The control then performs multiple calculations. After this, the control pre-positions the tool at the calculated starting point and plunges to the milling depth. The control then calculates the end point coordinates of the next linear path and approaches them. This program section is repeated by the control until the number of linear paths that you have defined—and thus the end point—have been reached.

Then the control moves the tool to the set-up clearance. After this, the control resets the datum shift and the rotation and ends the subprogram.

Finally, the control retracts the tool and ends the NC program.

Parameter	Name	Meaning
Q1	CENTER OF THE ELLIPSE IN X-AXIS	Center of the ellipse in the X axis
Q2	CENTER OF THE ELLIPSE IN Y-AXIS	Center of the ellipse in the Y axis
Q3	DEPTH	Milling depth of the contour
Q5	PITCH	The number of linear movements into which the control divides the contour
Q6	ELLIPSE SEMIAXIS X	Radius of the ellipse in the X axis
Q16	ELLIPSE SEMIAXIS Y	Radius of the ellipse in the Y axis
Q7	STARTING ANGLE PLANE X/Y	Absolute angle of the contour starting point
Q17	END ANGLE IN PLANE X/Y	Absolute angle of the contour end point
Q8	ROTATION OF THE ELLIPSE	Angle value for the rotation of the ellipse
Q10	SET UP CLEARANCE	Z coordinate that the control approaches in rapid traverse before machining
Q11	FEED RATE FOR PLUNGING	Traversing speed of the tool in the Z axis
Q12	FEED RATE FOR MILLING	Traversing speed of the tool in the X/Y plane
Q14	ALLOWANCE FOR SIDE	The machining allowance for the side
Q15	RADIUS COMPENSATION	Direction of the radius compensation <ul style="list-style-type: none"> ■ 0 for a milling path without radius compensation (R0) ■ +1 for a milling path with radius compensation to the left (RL) ■ +2 for a milling path with radius compensation to the right (RR)





Text:		ID number	
Change No. C000941-10		Phase: Nicht-Serie	
Werkstoff: Material:		●blanke Flächen/Blank surfaces	
	Original drawing Scale 1:1 Format A4	Bausatz Assembly kit	
Maße in mm / Dimensions in mm		Montage-ZZ / Assembly Drawing	
Werkstückkanten nach ISO 13715 Workpiece edges ISO 13715 	Allgmeintoleranzen 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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	D1224772-00-A-01 Document number		Version Revision Sheet Page 1 of 1