



HEIDENHAIN



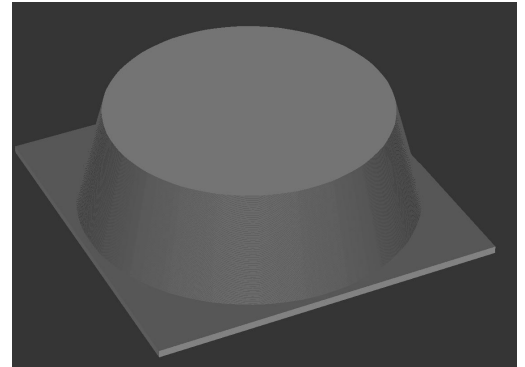
NC Solutions

Description of NC program 1075

English (en)
4/2017

1 Description of the NC program 1075_en.h

NC program for machining a female or male taper shaft with a helical tool path.



Description

The control generates a taper shaft with this NC program. The tool moves along a helical path.

With parameters you define whether the control:

- Machines the taper path inside or outside
- Calculates the machining from top to bottom or inversely
- Calculates the tool path clockwise or counterclockwise

In the first part of the NC program you define the tool and all parameters required for the calculation.

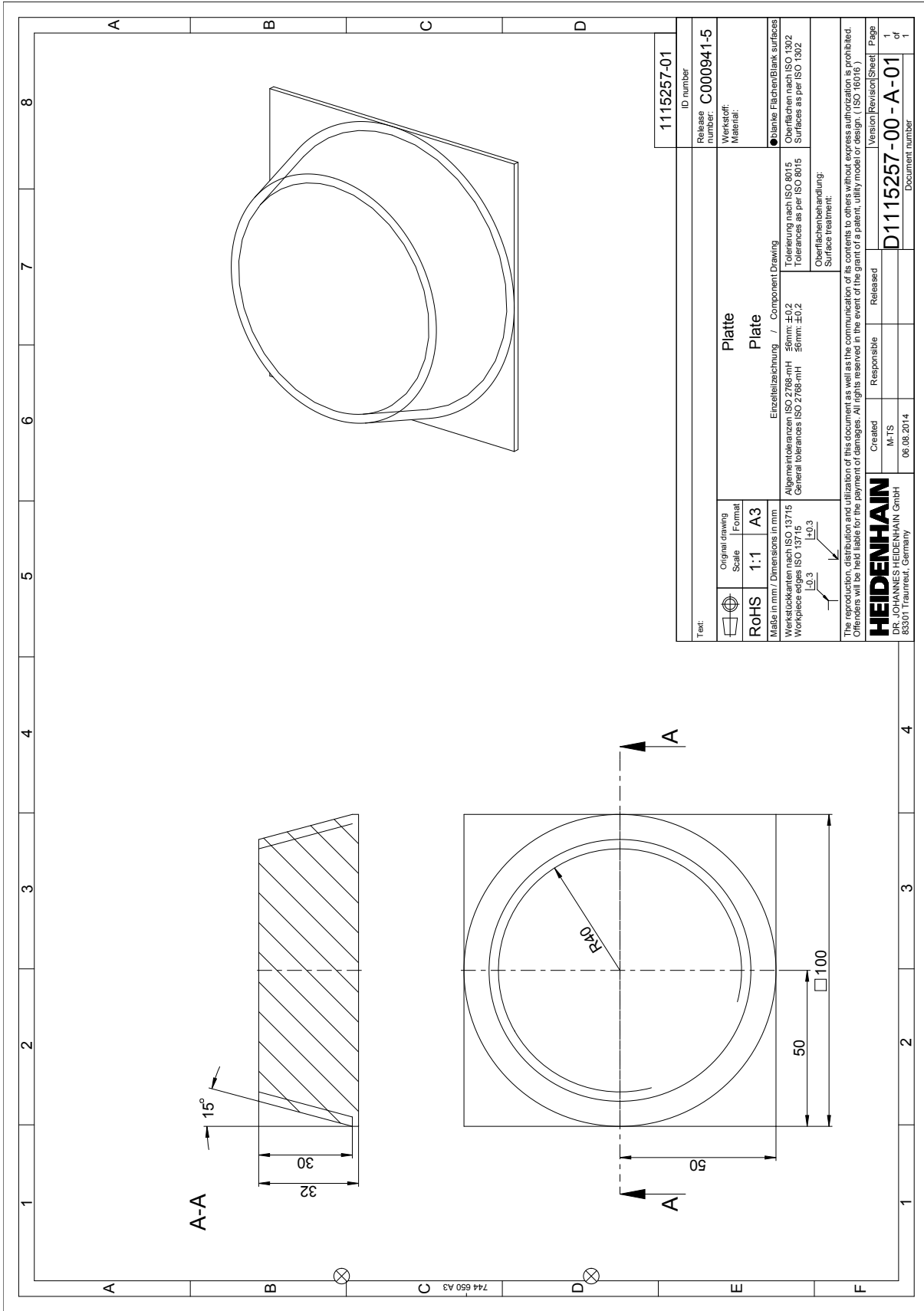
After entering these parameters the control calls a subprogram. In this subprogram the control calculates the tool path and traverses this path. The control creates the milling path from individual points. The control calculates the X, Y and Z coordinate for each of these points and approaches the point along a linear path. The pitch parameter enables you to define how many points the control calculates along a 360° path; this therefore influences the accuracy.

You define the machining direction with the starting and end point coordinates in the Z axis:

- Start Z coordinate > end Z coordinate, machining from top to bottom
- Start Z coordinate < end Z coordinate, machining from bottom to top

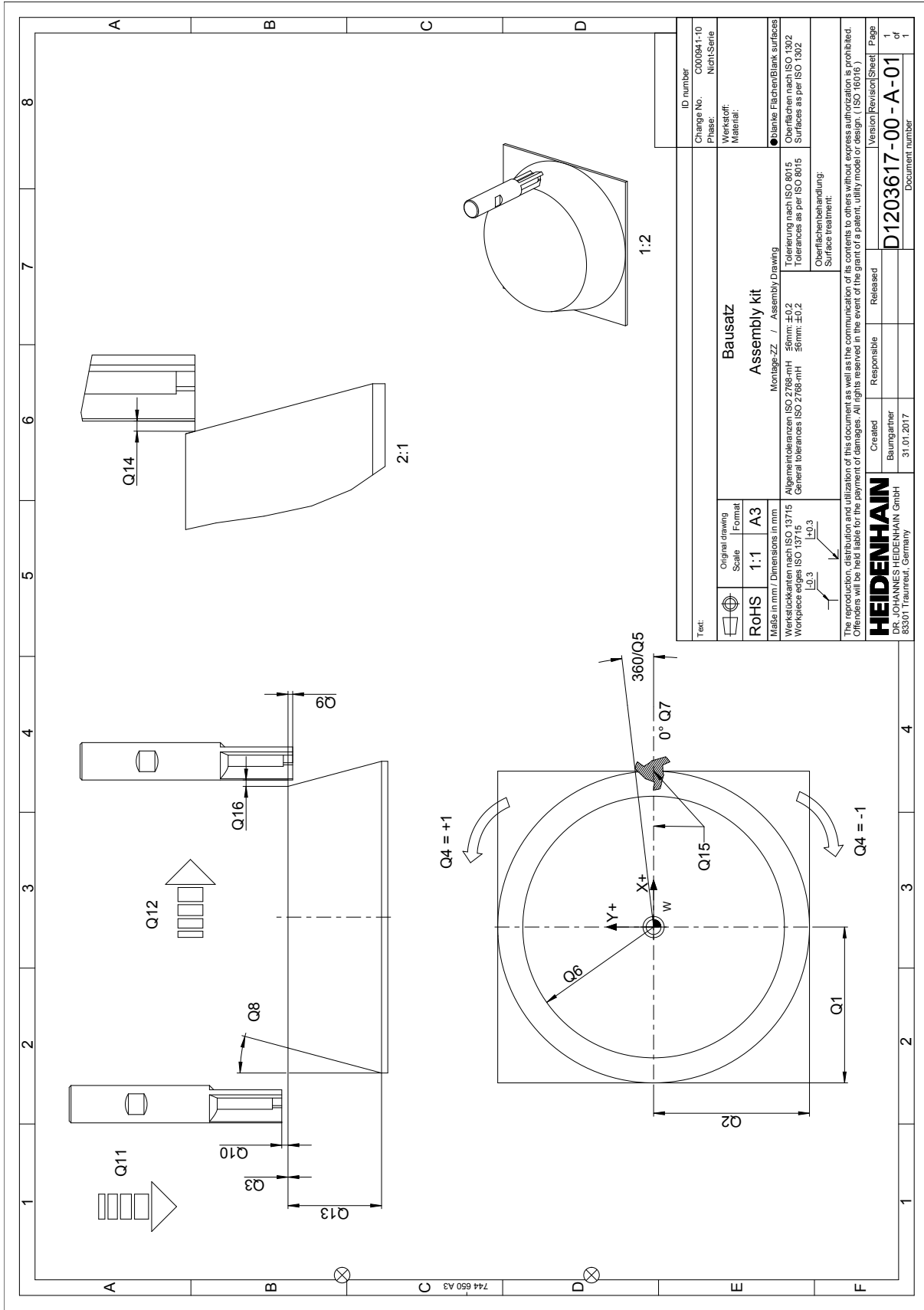
After the machining the control retracts the tool and terminates the program.

Parameter	Name	Meaning
Q1	CENTER IN X	X coordinate of the circle center point
Q2	CENTER IN Y	Y coordinate of the circle center point
Q4	MACHINING DIRECTION	Direction of the milling path <ul style="list-style-type: none"> ■ +1 for counterclockwise milling path ■ -1 for clockwise milling path
Q5	PITCH	Number of calculated points in each 360° path
Q6	START OF RADIUS	Taper shaft radius at the starting point of the helical path
Q7	STARTING ANGLE	Polar angle at the starting point of the helical path
Q8	TAPER ANGLE	Angle of the taper shaft
Q9	DEPTH CHANGE PER STEP	Helical path pitch per 360°
Q10	CLEARANCE HEIGHT	Safe Z position relative to the workpiece zero point
Q11	FEED RATE FOR PECKING	Traversing speed of the tool in the Z axis
Q12	FEED RATE FOR MILLING	Traversing speed of the tool on the helical path
Q3	Z-COORDINATE AT START	Z coordinate at the starting point of the helical path
Q13	Z COORDINATE AT END	Z coordinate at the end of the helical path
Q14	LATERAL OVERSIZE	Oversize in the X/Y plane
Q15	RADIUS COMPENSATION	Compensation in the tool radius <ul style="list-style-type: none"> ■ +1 for outward compensation ■ -1 for inward compensation
Q16	LATERAL SAFETY CLEARANCE	Distance traversed by the control when pre-positioning to the starting point in the X/Y plane



ID number		1115257-01	
Release number:		C000941-5	
Werkstoff:		Material:	
Material:		●blanke Flächen/Blank surfaces	
Tolerierung nach ISO 1302		Surfaces as per ISO 1302	
Tolerances as per ISO 8015		Surfaces as per ISO 1302	
Einzelteilzeichnung / Component Drawing			
Tolerierung nach ISO 8015		Tolerances as per ISO 8015	
General tolerances ISO 2768-mH		±0.2	
Workpiece edges ISO 13715		±0.3	
Oberflächenbehandlung:		Surface treatment:	
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Original drawing		Scale	
Scale		1:1	
Format		A3	
RoHS		1:1	
Maße in mm / Dimensions in mm			
Werkstücktoleranzen ISO 2768-mH		±0.2	
General tolerances ISO 2768-mH		±0.2	
Workpiece edges ISO 13715		±0.3	
Created		Responsible	
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Phase:			
Werkstoff:			
Material:			
●Blanke Flächen/Blank surfaces			
Oberflächen nach ISO 1302			
Surfaces as per ISO 1302			
Tolerierung nach ISO 8015			
Tolerances as per ISO 8015			
General tolerances ISO 2768-mH		±0.2	
Workpiece edges ISO 13715		±0.3	
Maße in mm / Dimensions in mm			
Werkzeugtoleranzen ISO 13715			
General tolerances ISO 2768-mH		±0.2	
Workpiece edges ISO 13715		±0.3	
Oberflächenbehandlung:			
Surface treatment:			
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Original drawing		Bausatz	
Scale		Assembly kit	
Format		Montage-ZZ / Assembly Drawing	
A3			
RoHS			
1:1			
Created		Released	
Responsible			
Baupartner			
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