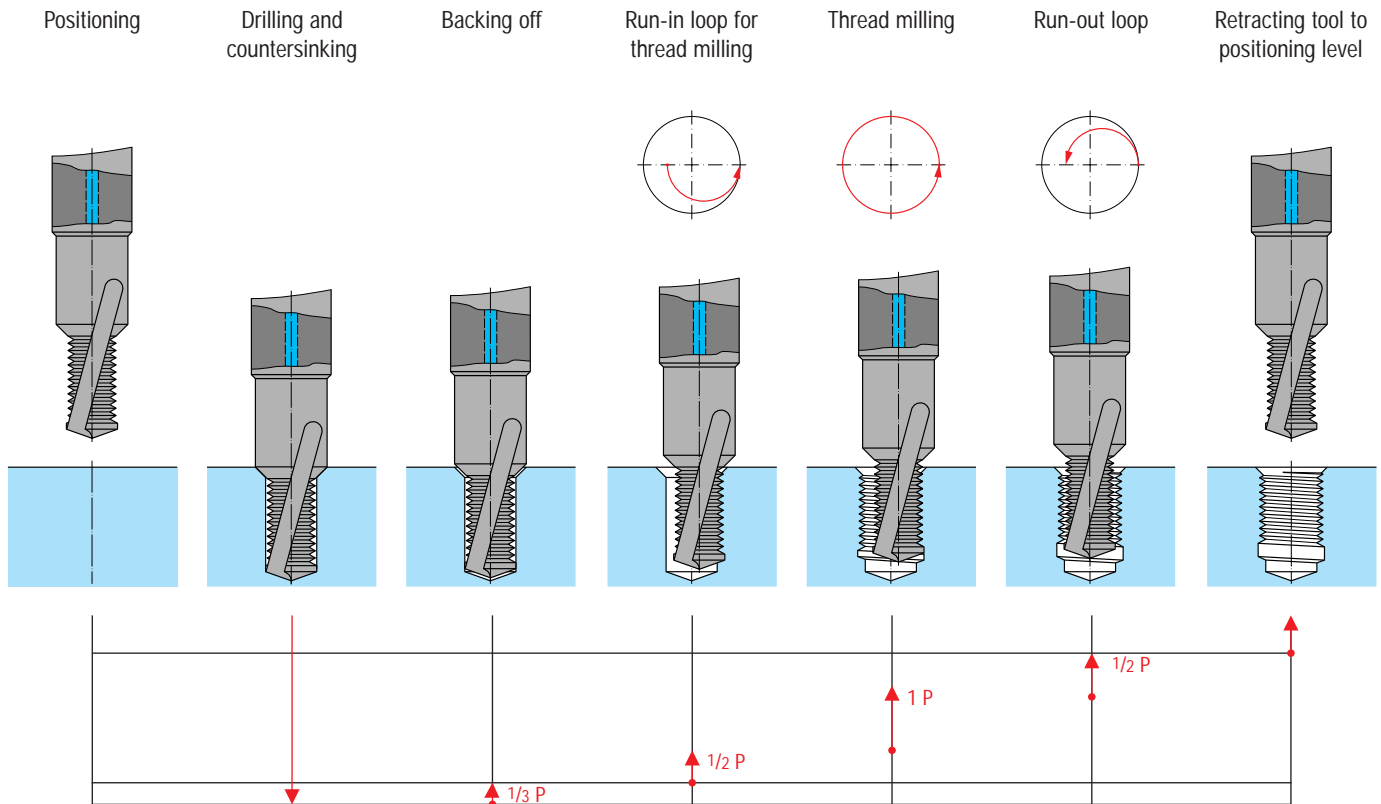


Description:

- For threads in the size range from M4 to 3/4"
- Drilling into solid material, chamfering of the thread hole and thread milling in one work process (without tool change)
- Mostly used in short-chipping materials
- Production of a recess on the bottom of the hole
- In addition to the successful 2-fluted design we can offer you a 3-fluted tool for shortening cycle times and improving performance with cast thread holes

Application areas: Short-chipping materials

Preparatory work: None



Programming Instruction

CNC Thread Milling With Thrillers Type BGF



Dimension: _____

Nominal thread diameter D: _____ Inch

Thread pitch P: _____ Inch

Drilled hole diameter D₁: _____ Inch

Company: _____

Workpiece: _____

Material: _____

Date: _____

Tool: _____

Cutting material: _____

Article no.: _____

Coating: _____

Flutes z: _____

Cutter diameter d₁: _____ Inch (measured on the cutting part)

Cutter radius compensation k 1): _____ Inch $\frac{\text{thread diameter}}{100} =$ _____

Cutter radius to be programmed 2): _____ Inch (1/2 d₁ - k)

Drilling/Countersinking depth LE: _____ Inch

Cutting speed v_c: _____ SFM ($n = \frac{v_c \times 12}{d_1 \times \pi}$) S = _____

Feed (drilling, countersinking) f_b: _____ Inch/rev. (v_b = f_b x n) F = _____ (drilling, countersinking)

Feed (milling) f_z: _____ Inch (v_f = f_z x z x n) F = _____ (contour)

Please note: For milling feed related to the path of the tool axis: $v_f = \frac{v_f \text{ contour} \times (D - d_1)}{D}$. F = _____ (axis)
Then, in block N40 1/2 F (tool axis) and in block N60 F (tool axis).

Required parameters:

E1 = 1/2 nominal thread diameter	1/2 D	=	_____	Inch
E2 = thread pitch 3)	P	=	_____	Inch
E3 = drilling/countersinking depth	LE	=	_____	Inch
E4 = 1/3 P (for climb milling and right-hand threads)	1/3 P	=	_____	Inch
E41 = 21/3 P (for climb milling and left-hand threads)	21/3 P	=	_____	Inch
E5 = 1/2 drilled hole diameter	1/2 D ₁	=	_____	Inch
E6 = run-in loop	1/2 D + 1/2 D ₁	=	_____	Inch

CNC internal thread milling (climb milling, on the contour, incremental, acc. DIN 66025)

N 10	G 54	G 90	G 00	X	Y	Z 2	S	T 01 2)	M 03
N 20	G 91	G 01	Z- (E3+2)		F (drilling, countersinking)				
N 30	Z (E4) or (E41) for left-hand threads								
N 40	G 41	Y- (E5)			F (milling, contour)				
N 50	G 03	X 0	Y (E6)	Z (1/2 E2)	I 0		J (1/2 E6)		
N 60	G 03	X 0	Y 0	Z (E2)	I 0		J- (E1)		
N 70	G 03	X 0	Y- (E6)	Z (1/2 E2)	I 0		J- (1/2 E6)		
N 80	G 00	G 40	X 0	Y (E5)					
N 90	G 90	Z 2							

1) The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).

2) The cutter radius to be programmed is normally included in the tool memory.

3) For right-hand threads + (screwing out); for left-hand threads - (screwing in).