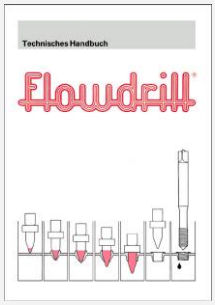
Flowdrill

I. Preperation for Flowdrill

Speed, engine torque and drill choice

User Guide:



Page 30: Speed, engine torque

Technische Daten zum Fließbohren und Gewindeformen

Gewinde	Flowdrill Kernloch ∅	Flowdrill [min^{-1}]	Flowdrill [KW]	Bearbeitungs-zeit [sec]	Flowtap [min^{-1}]
M 8	7.3	2200	1.3	2	500

Page 32: Drill choice, thickness, material

Gewinde	Kern-loch	max. Material-stärke Form kurz	max. Material-stärke Form lang	max. Material-stärke Form kurz/flach	max. Material-stärke Form lang/flach	Schaft-durch-messer	Gesamt-länge Arbeits-dorn Form kurz	Gesamt-länge Arbeits-dorn Form lang
M6	5,4	2,0	2,9	2,5	5,0	6	10,5	13,5
M6 x 0.75	5,6	2,0	2,9	2,5	5,0	6	11,0	14,5
M6 x 0.5	5,8	2,0	3,0	2,6	5,2	6	11,2	14,7
M8	7.3	2.2	3.3	2.9	5.9	8	13.5	18.1

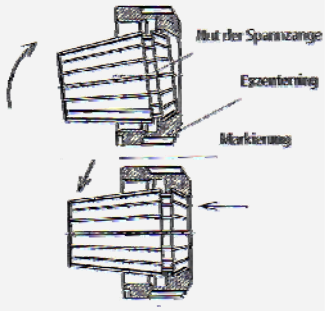
Equipment

- Cooling disc MC2
- Collet
- Hook Spanner
- Thin Spanner
- 100g FDKS
- 100g FTMZ
- Carry case

- Flowdrill

Setting up the Flowdrill

Place cooling disc MC2 inside of the spindle making sure that it is held fast in place.



Push Collet into place within the MC2 cooling disc making sure that it snaps into place and sit flat against the base of the MC2.

Push Flowdrill inside the collet all the way up to the collar.

Tighten the Flowdrill in place using the spanners. This should be repeated after the first 4 to 5 drillings.

Dismantling

1. When loosening the Collet make sure that the Flowdrill does not just fall out e.g. Use a piece of wood underneath.
2. Do not touch the hot drill with your hands.

Setting up to drill

Tighten the material into the vice making sure there are no vibrations. Attach the Vice to the top of the drilling table so that there is no movement.

Hole with collar make sure there is between 0.8 and 3.5 mm depending on the thickness of the material, free above the material itself.

Hole without Collar make sure that the cutting blade of the Flowdrill will come in contact with the material to allow for removal of the collar..

Necessary speed and if necessary automatic feed stop (User guide pg.30/32) Data for a programming CNC are available on request.

Lubricate the Flowdrill when it is rotating by applying FDKS thinly up and down the Flowdrill. The Flowdrill colour should still show through

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II. Flowdrill process

Bring the Flowdrill down into contact with the material then apply steady pressure

Carry on building up pressure but keep it at a constant rate.

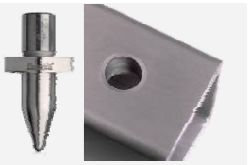
Continue on with a continuously increased speed as you go through.

The collar will form. Or the collar will be cut away depending on the Flowdrill

After you have Flowdrilled the system is ready to use straight away again.

Pay close attention to the required parameters for Flowdrill!

Desired Results:	Standard - with collar	Flat - without collar



Flowtap

- Equipment:

Tap Holder with length compensator, Tap collet and Thread former.

or

Tap holder with length and guidance compensator, and Thread former.

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		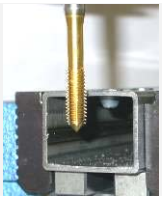		
				
Attach the Tap holder inside the spindle and connect on the collet.	Attach in the thread former and set the table height to about double the former length.	Set the depth of the thread former so that it will reverse after passing through the hole. Then line up with the hole itself.	Make sure the machine is set for tapping and NOT drilling. Set the required parameters. Remember to apply FTMZ before every hole which is tapped.	The thread former will form the thread itself just make sure that you follow the former as it goes down through the hole and then on the return journey