Optimill BF 20 LD

- Drill press
- Max 10kg workpiece weight
- With cross table
- Digital readout (DRO)
- Up Ø 16 mm holes
- 90 - 3000 min^{-1}
- X-Travel: 480 mm
- Y-Travel: 175 mm
- Z-Travel: 280 mm

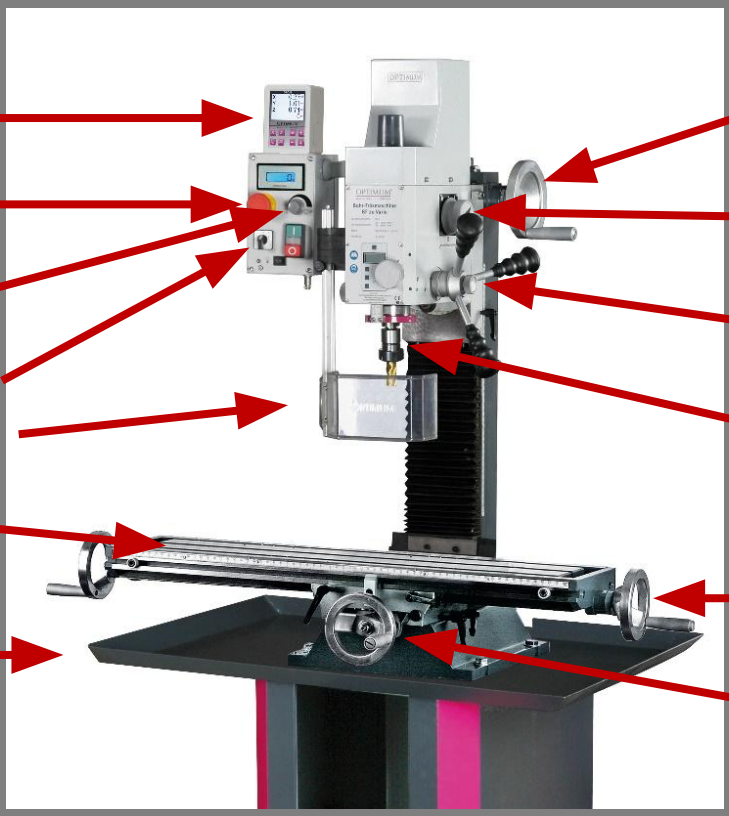
Safety Rules 1/2

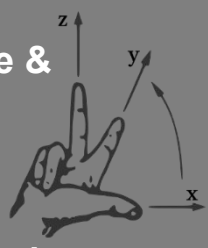
- Make sure your workpiece is secured
- Do not change tools when spindle is moving
- Never touch moving spindle
- Always keep your hands away from the moving spindle
- No towels near moving parts
- No measuring or marking when machine is running
- Only clean the machine when turned off
- Never change the safety systems

Safety Rules 2/2

- Safety goggles
- No baggy clothing
- No open hair
- No jewellery
  - Including watches and rings
- No gloves

Terms



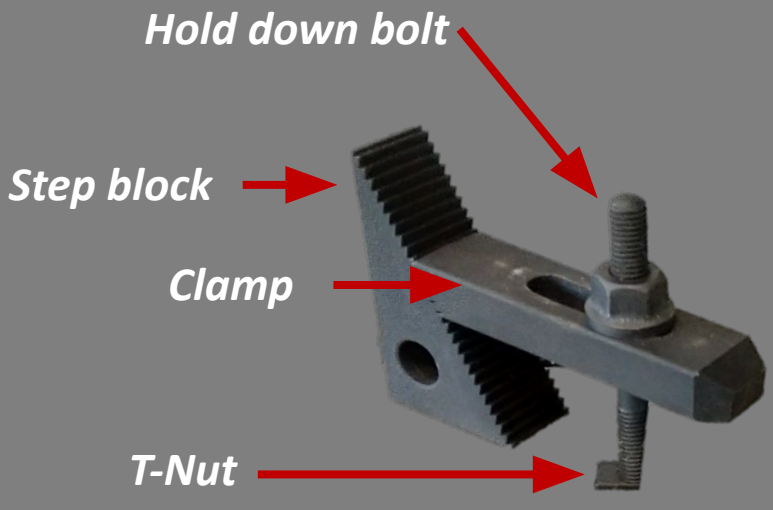


USAGE

1. Fix the workpiece

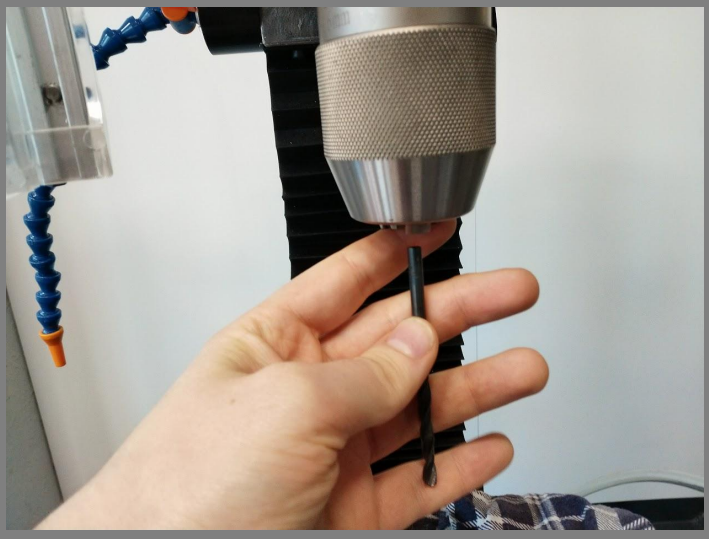
Option A: **Vise**

Option B: **Clamps (use 2 or more)**



2. Insert / Change Tool

When changing a tool, always make sure to put a piece of cloth underneath the tool. If the tool falls down this will secure it from breaking.



Hold the tool with one hand and insert into the spindle. Secure it with the other hand while holding on to it. Only let go of the tool if you are sure it's secured.

Tighten the tool holder <u>firmly with both hands</u>. Make sure the tool is <u>inserted as far as possible</u>.

Spot Drill (centering)

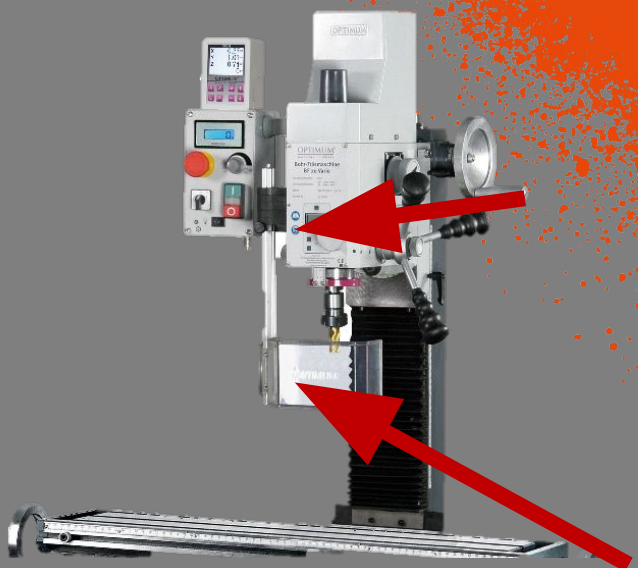
Spiral Drill

Counter Sink (chamfering)
(300rpm)

Tap (threads)
(by hand)

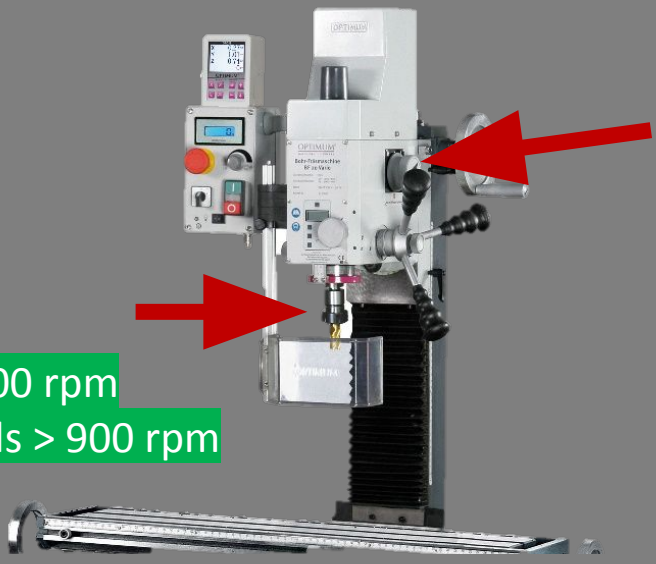
Step Drill (for sheet metal)

3. Shield Adjustment



The shield can be moved by loosening this screw. Make sure to have the shield in place when drilling.

4. Gear Change



Use…

- “**L**” for 90 - 900 rpm
- “**H**” for speeds > 900 rpm

If you need to change the gear, make sure the machine is turned off and then rotate the gear wheel while slowly rotating the spindle by hand. You will feel the gears interlocking.

5. Set drill speed [rpm]

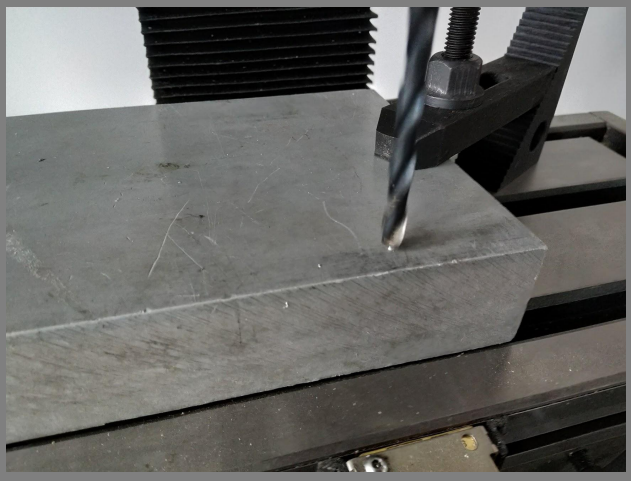
- ***Start the spindle.***
- ***Tune the speed to the desired value using the speed regulator.***

Drill Ø (mm)	Stainless Steel	Mild Steel	Aluminium	Brass	Bronze
3	850	2650	3000	3000	3000
4	640	1990	3000	3000	2390
5	510	1590	3000	3000	1910
6	420	1330	2650	2650	1590
7	360	1140	2270	2270	1360
8	320	995	1990	1990	1190
9	280	885	1770	1770	1060
10	255	795	1590	1590	955
11	230	725	1450	1450	870
12	210	663	1330	1330	795
13	195	612	1220	1220	735
14	180	568	1140	1140	680
15	170	530	1060	1060	637
16	160	497	995	995	597

6. Zero Position

Zeroing X and Y:
To set the axis to 0 on the digital read out, just press the axis (x or y) button and wait for a few seconds while the value is blinking. The display will then jump to 0.

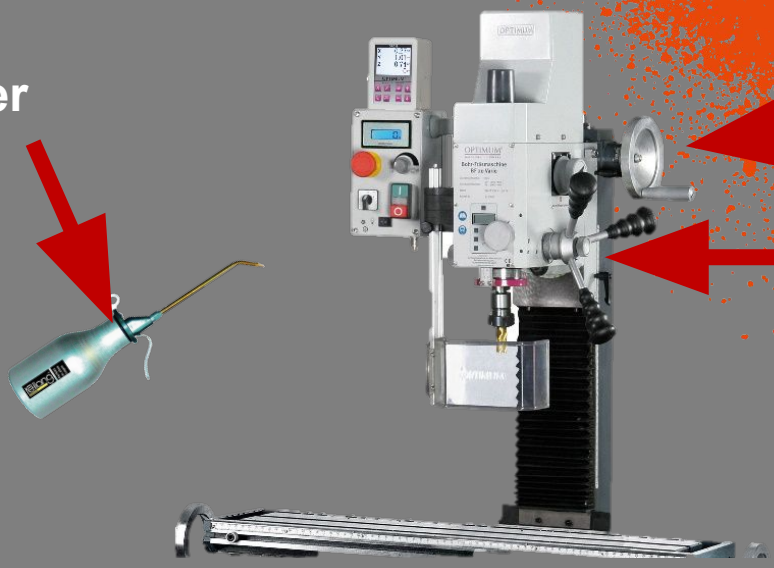
Zeroing the plunger:
Drill using the plunger, until the drill starts cutting with it's outer edge.



Stop the spindle.

Now set the zero for the plunger by using this button.

7. Drilling



Use the plunger to drill into your workpiece.

Apply oil from time to time.

Use the brush to remove chips.

Make sure not to drill into the table / vise!

If needed, place a piece of scrap material underneath your workpiece.