ANNULAR CUTTER MANUAL

The annular cutter is applied in drilling holes in steel,copper,brass,aluminum,stainless steel,special alloys and rails.

Use with stationary drilling machines

- Make sure the slide is tightened

Use with stationary machines

- Make sure the slide is tightened
- Spindle should be worked correctly
- The table should be moved towards the spindle
- Use the machine only manually.

cooling

- Use Morse Tapers
- Add sufficient coolant from the hole on the side of arbor
- If powder when drilling material, compressed air can be used for chip removal

RPM

- Construction and stainless steel- 0.08-0.12mm/rpm
- Cast iron- 0.12-0.20mm/rpm
- Non-ferrous metals- 0.22-0.45mm/rpm
- Special alloys-0.05- 0.08mm/rpm

Recommend RPM Chart

Material	Carbon steel	Alloy steel	Stainless	Aluminium	Cast iron	Cast bronze
Diameter	RPM	RPM	RPM	RPM	RPM	RPM
12-18	450-320	370-250	350-230	1850-1250	800-500	1200-800
19-25	300-230	240-180	240-180	1200-900	500-400	750-57-
26-32	220-180	170-140	170-140	850-700	370-300	550-450
33-39	170-150	130-110	130-110	650-550	290-250	430-340
40-46	140—120	110-100	110-100	550-500	240-200	360-310
47-53	121-108	94-84	88-78	474-420	203-180	304-270
54-60	106-95	82-74	76-69	412-317	176-159	265-238
61-65	93-88	73-68	67-63	365-342	156-146	234-220

Manual pressure

- Pressure not be great
- Make sure chips getting inside the cutter
- When cutting deep holes it is wiser to remove the chips
- When done fill the hole with oil

Automatic pressure

- It is not recommended to use the automatic model of magnetic drill
- Automatic model higher the chance of cutter breakage

End of drilling

- Turn off the motor to the spindle stops rotating
- Remove the chips on the drill bit body with hook

The following operations can help reduce or slow down the wear and fracture of the drill bit:

1. When drilling steel parts, please ensure sufficient cooling capacity and use liquid metal;
2. Good drill pipe rigidity and guide rail clearance can improve drilling accuracy and drill bit life;
3. Please ensure the flatness and cleanliness between the magnetic base and the workpiece;
4. When drilling thin plate, the workpiece shall be reinforced. When drilling large workpiece, please ensure the stability of the workpiece;
5. At the beginning and end of drilling, the feed rate shall be reduced by 1 / 3;
6. For materials with large amount of fine powder during drilling, such as cast iron and cast copper, compressed air can be used to help remove chips without using coolant;
7. Please remove the iron filings wound on the drill body in time to ensure smooth chip removal.

Common problems and other treatment methods：

Stuck：Use non-metallic materials to gently tap the drill body, or gently press the material core for several times to make it loose and pop up. You can also remove the drill bit and gently tap the thimble to push it out.

Tool wear:Under normal cooling, when the color of iron filings is blue and black, it is necessary to check the bit edge. When the maximum wear width is 0.5mm, it is recommended to grind.

Caution:

Follow the following safety precautions to avoid accidents.

1. Please wear working clothes, safety glasses, safety helmet, etc. during operation; please do not wear loose clothes and gauze gloves to avoid danger.
2. to prevent the iron scraps from scratching the hand, please use iron hook to remove the iron chips when drilling.
3. before use, please check whether the drill bit has any gap. If there are any gap, please do not use it.
4. if the drill bit is stuck, please close the motor immediately.
5. when replacing and removing the drill bit, ensure that the power supply of the equipment is in the disconnected state.
6. when the drill bit is rotating, please do not touch it by hand to avoid danger.
7. the bit edge is very hard, but also very brittle. Please protect it carefully. If the bit breaks, it will affect the drilling effect and may cause the bit to break.