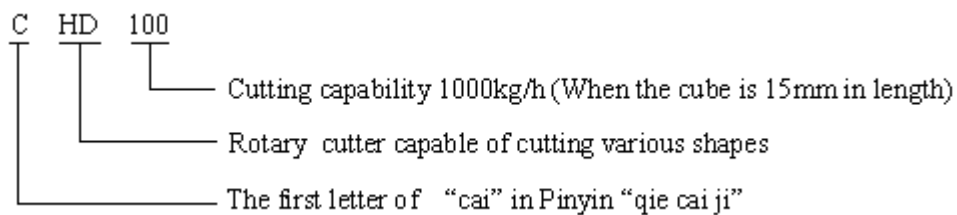


Instruction of CHD100 cuber

1. Introduction

CHD100 cuber is suitable for evaporate vegetables, frozen vegetable factories and pickle industry to process root and stem vegetables into shapes of cube or cuboid. This machine adopts compound cutter, and all forming processes are done in one step. The shape of vegetables that have been processed is regular, the profile of it is smooth, and the shaping rate is high. It is very popular in import and export company. This machine is advanced in designing, easy to operate, low energy consumption, and efficient. This machine is made of aluminium magnesium alloy and stainless steel, which is rotproof, aesthetic, and meets hygiene standards.

Model number explanation:



2. Structure feature and working principle

2.1 Details of structure characteristics can be seen in sketch of cuber (Fig. 1) and sketch of transmission principle (Fig. 2).

2.1.1 This machine is made up of pedestal, shell, drive plate, upright cutter, diffusion knife, cross cutter, transmission agent and electrical apparatus control system.

2.1.2 The pedestal, shell, chute and other main components are made up of aluminium magnesium alloy and stainless steel, which can keep in non-pocking and nonhazardous condition for long-term operation.

2.2 Principle of work

The drive plate of this machine drive the vegetables to rotate in high speed, vegetables are cut into slices making use of centrifugal force with upright cutter and then cut into strips through disk diffusion knife. Next, the vegetables are transported to the cross cutter and cut into cube or cuboid as required. (Fig. 3 Sketch of cutting principle)

3. Main technical parameter

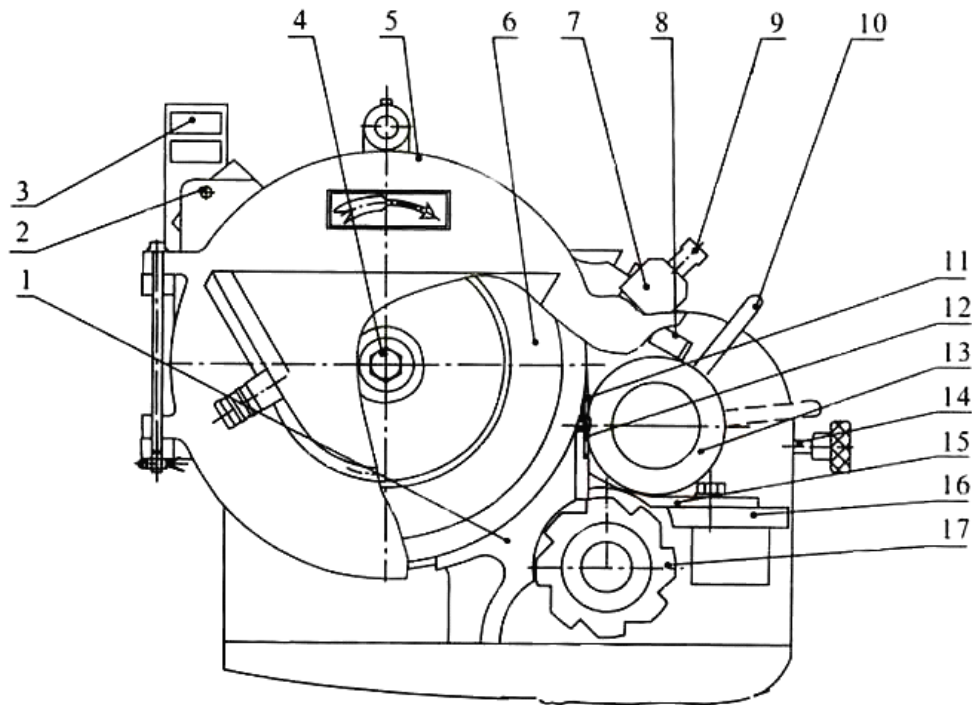
3.1 Production capacity: 1000kg/h (When the cube is 15mm in length)

3.2 Cutting standard: Vegetables can be cut into cubes or cuboids that are 4, 5, 6, 8, 10, 12, 15mm in length, or other cutters of different dimensions can be ordered as required.

3.3 The model number and power of motor: Y802-4, 380V, 0.75kW

3.4 Outside dimension: 710×660×1085mm (Length×Width×Height)

3.5 Weight of the machine: 100kg



1	Shell	2	Adjusting screw	3	Snap switch	4	Drive plate nut
5	Adjusting panel	6	Drive plate	7	Adjusting shell	8	Limiting device
9	Adjusting handle	10	Eccentricity handle	11	Slice cutter	12	Sheet cutter apron
13	Diffusion knife	14	Setscrew of eccentric	15	Threads-resisting plate	16	Comb support saddle
17	Cube cutter						

Fig. 1 Structure and figure of CHD cuber

4. Manipulability

4.1 Preparation and check out before operation

4.1.1 Set the chute to the inlet point of the shell with screws. (To facilitate package and transportation)

4.1.2 Check out whether foreign material exists in the shell. If any, get rid of it, otherwise the cutter can get damaged easily.

4.1.3 Clear up the operation area, check out the voltage of electric power source is in accordance with the service voltage of this machine, invite a professional electrician to connect the power cord to large open spread power switch with all poles cut off, and connect the ground at the connecting ground mark reliably. Turn on the switch, press “Open” button, check out the direction of rotation, (Face the turntable, clockwise is correct.) Otherwise, cut off the power and adjust wire connection.

4.1.4 Connect the water source in case of usage.

4.1.5 When the machine is working, hand and other foreign material are forbidden to put into the shell in case of danger.

4.2 Manipulability

4.2.1 First, vegetables should be cleared thoroughly with no foreign material. The blade and the cutting board will be easily damaged and blunt if any sands or clods exist in the vegetables. The maximum diameter of the vegetables should be under 80mm. If it is large than 80mm, vegetables should be cut into smaller cubes first.

4.2.2 Turn on the switch HK2-15, close the shell door, turn on safety switch. If the shell is not closed in place, switch XK can't be closed, circuit is interrupted, and the motor can't work.

4.2.3 Vegetables are thrown into the shell through chute, with the help of drive plate, they are cut into required thickness with upright cutter, and then cut into strips with disk diffusion knife, finally they are cut into cubes with cross cutter.

4.2.4 Adjustment of cube standard: It is adjusted by revising the thickness of slices, and changing disk diffusion knife and cross cutter.

4.2.4.1 Adjusting thickness of vegetable slice: Required thickness can be gotten by

adjusting adjustable plate. First, unscrew the setscrew on the adjustable plate of shell, and rotate advance lever to required position while lifting adjustable plate. And then lay down adjustable plate, and screw the setscrew to fix it. (Fig. 4 Schematic diagram of slice thickness adjustment)

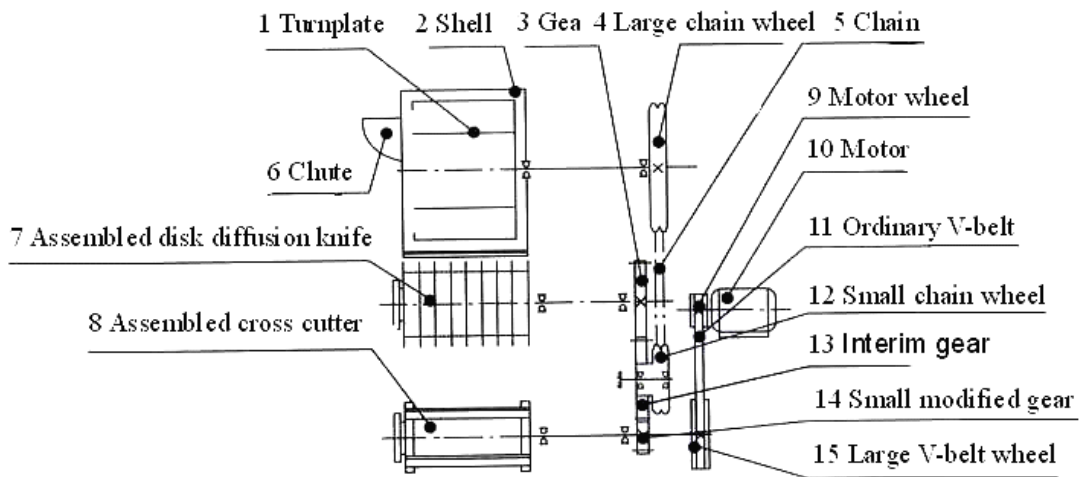


Fig. 2 Sketch of transmission principle of cuber

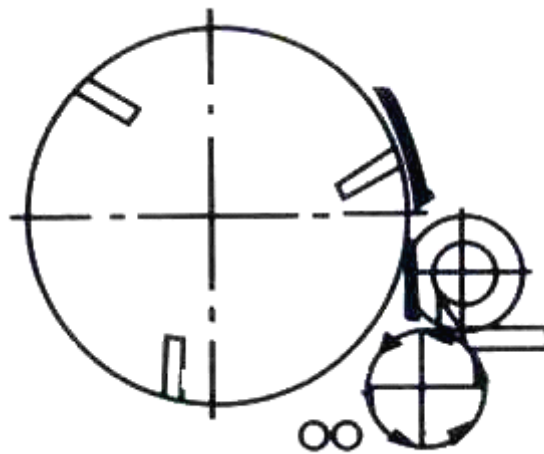


Fig. 3 Sketch of cutting principle

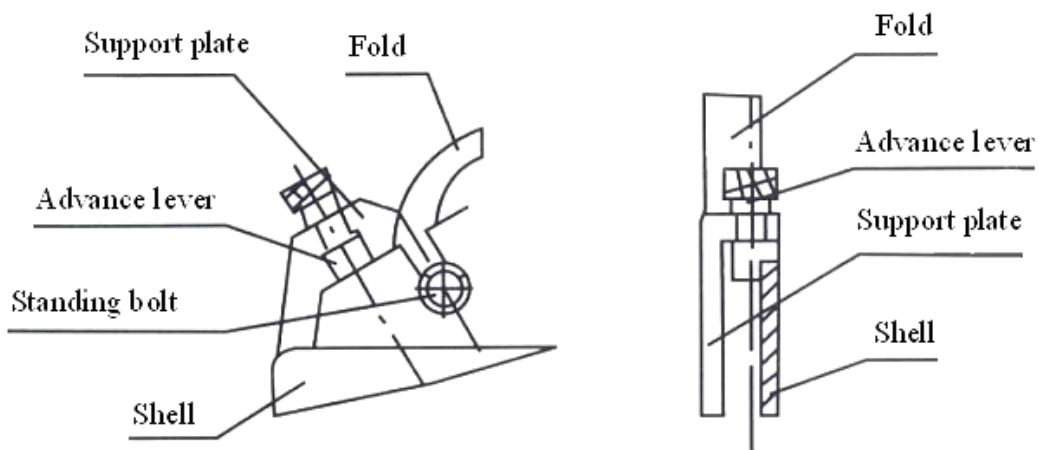


Fig. 4 Sketch of adjustment of slice thickness

4.2.4.2 Replacement of disk diffusion knife: 5mm, 10mm, etc disk diffusion knives are available to be replaced, and other standard cutters can also be ordered. (Fig. 5)

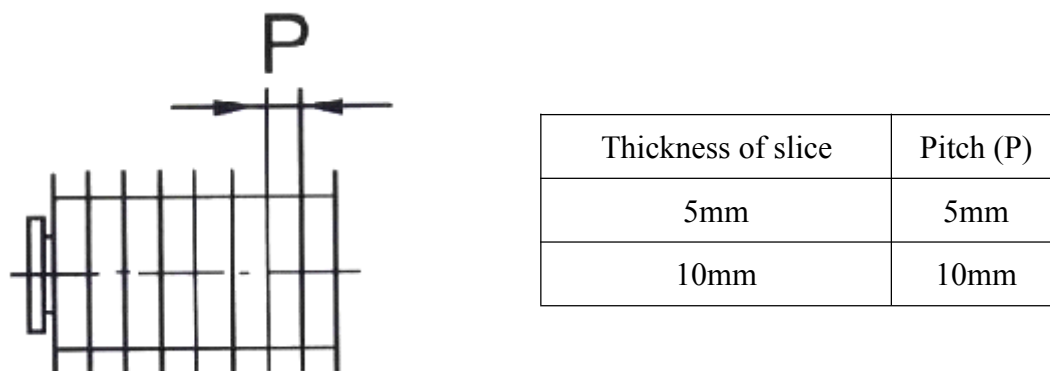


Fig. 5 Pitch of Disk diffusion knife

All kinds of assembled disk diffusion knives are standard components, and can be replaced or assembled according to required thickness. Steps of replacement: Unscrew the handwheel, push the hand handle downward to get assembled disk threads blade out of comb, unscrew nut on the end of axis, hook the groove in front of the assembled cutter with hook cover, demount assembled cutter, replace the cutter with required size cutter, and screw the nut on the end of axis tightly. Move the hand handle upward to observe that whether the mesh of driver gear in the machine is proper. If the mesh is proper, the hand handle will be close to the controller. Disk

threads blade move into the groove of comb and upright blade, and tighten the handwheel when no friction and clamping stagnation exist between upper blade and comb, upright blade. The replacement has been done now. (Fig. 6)

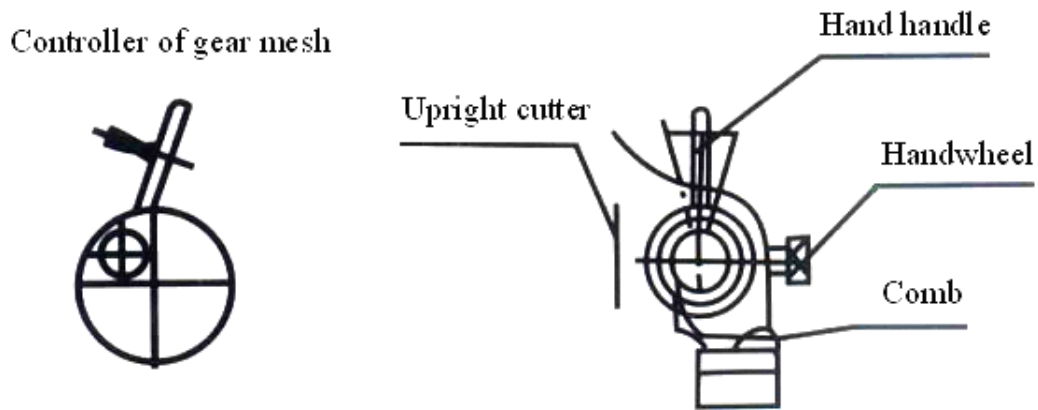


Fig. 6 Schematic diagram of replacement of disk diffusion knife

4.2.4.3 Replacement of assembled cross cutter

Assembled cross cutter is selected according to request and length of the vegetables. Assembled cross cutter consists of 8 cut-off blades and 15 cut-off blades two standards. Other blades can be ordered as required. Corresponding cutting length is as follows:

The length of cross cut-off	The number of blade
5mm	15
10mm	8

4.2.5 The comb is used to scrape remains between assembled disk diffusion knife. The blade should be close to the surface of separating ringer on assembled disk diffusion knife when the comb is installing. The position of the comb (The calibration value of adjusting scale mark is 5mm, 10mm and 15mm) should accord with the adjusted thickness of slice, otherwise, machine performance and the quality of cut vegetables will be affected.

4.2.5.1 Installation errors: Vegetables can't get through, which is because the blade of comb isn't close to the surface of separating ringer on assembled disk diffusion knife.

(Fig. 7-1)

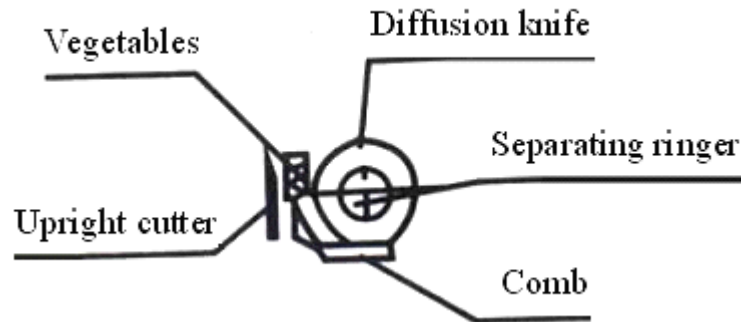


Fig. 7-1

4.2.5.2 Installation errors: The blade of comb contact with separating ringer, damage is done to the ringer surface, furthermore, the comb will be bent or broken.(Fig. 7-2)

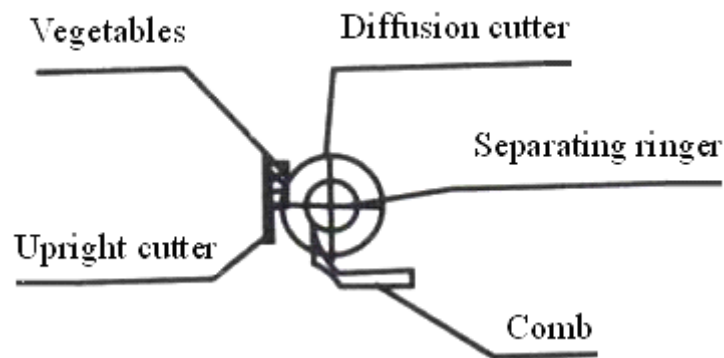


Fig. 7-2

5. Analysis of errors and resolution

Phenomenon of errors	Analysis of cause	Method to exclude	Remark
Low efficiency of machine	The ordinary V-belt is too loose, and it slips when working.	Tighten the ordinary V-belt.	
Vegetables can't drop down	①The distance between comb blade and separating ringer is too large. ②The thickness of slice is too large.	①Readjust the position of the comb to be close to surface of separating ringer. ②Adjust the thickness of slice to accord with the comb position.	

Vegetables can't be cut off	①The rotating direction of drive plate don't accord with what required. ②The comb is blocked. ③The assembled disk diffusion knife looses while working. ④The upright cutter is deterred by vegetables.	①Adjust the rotating direction of rotating panel to be clockwise. ②Clear up the comb. ③Tight assembled disk diffusion knife. ④Clear up the excess vegetables at the upright cutter.	
Fiber vegetables can't be cut off thoroughly	①Assembled disk diffusion knife is not in the board slot of upright cutter. ②Disk cutter wears heavily.	①Adjust the assembled disk diffusion knife to be posited 1mm in the board slot. ②Check out the disk cutter, grinding or replacement is needed if it wears heavily.	The method of grinding disk cutter seen in Fig. 10.

6. Maintenance:

All the maintenance work must be done after the power has been cut off.

6.1 The machine must be cleared up after each time use, especially the position and passage that vegetables go through.

6.2 After each time use, check out whether any cutters is damaged or blunt and whether the blade of comb is normal. Assembled disk diffusion knife and assembled cross cutter should be demounted every week (Special attention should be paid, and special purpose tools should be used in order to avoid hands hurt) and cleared up. Nonpoisonous and tasteless food oil should be used to keep the machine in good condition when the machine is reconfigured. Food oil should be smeared on the axis of diffusion knife and cross cutter in order to facilitate the demounting.

6.3 Gears and chains should be oiled every other week.

6.4 Grinding of all kinds of cutters

6.4.1 Polish and installing of upright cutter

In order to sharpen the upright cutter, the blade should be grinded with whetstone at α angle at the position close to disk diffusion knife. It can be repaired when the damage is less than 4mm. Grind off the area of clearance angle (β) to form new blade

of (α) angle. It is demanded to form small arch inside of the blade at the position close to the turntable in order to facilitate vegetables turn around. (Fig. 8 Schematic diagram of upright cutter grinding)

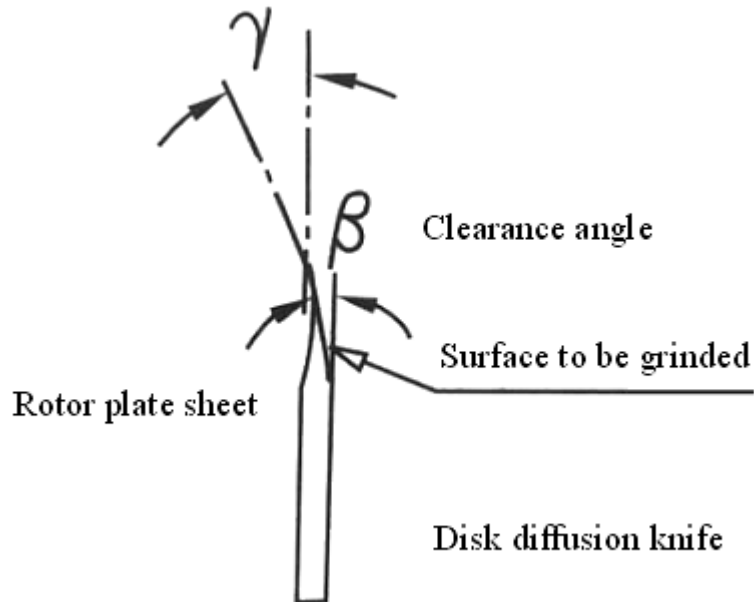


Fig. 8 Schematic diagram of upright cutter grinding

The lowest end of arch moves to the top of cutter supporting plate, as the height shown in the left picture of Fig. 9, and avoid the cutter touching the turntable. When the lowest end of the arch is lower than the top of supporting plate, it must move upward, or it can't cut. (Fig. 9 Schematic diagram of cutting installing)

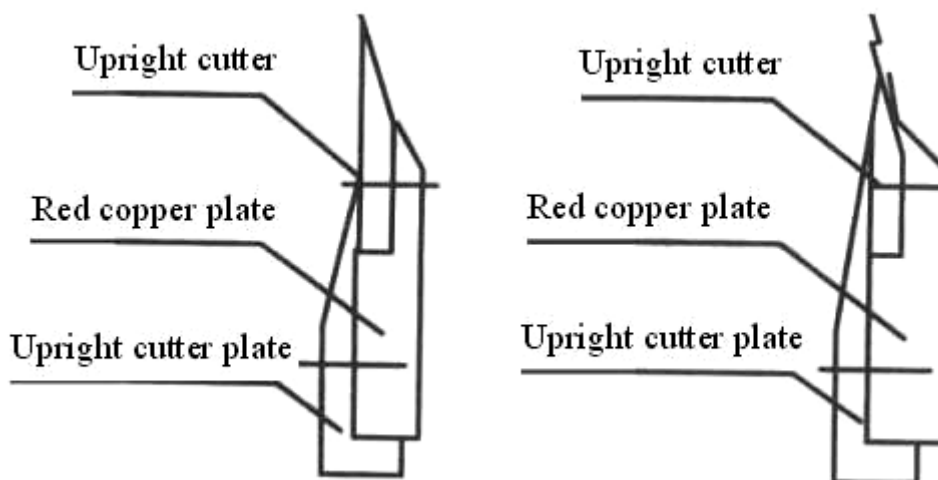


Fig. 9 Schematic diagram of cutting installing

6.4.2 Grinding of disk diffusion knife

When grinding the diffusion knife, it should be grinded mechanically and manual grinding is forbidden in order to get symmetrical diameter. The grinding direction (The moving direction of cutter when grinding) should be inclined to the centre. Disk diffusion knife can't be used when the reduction of diameter is more than 6mm. (Fig. 10 Schematic diagram of grinding disk diffusion knife)

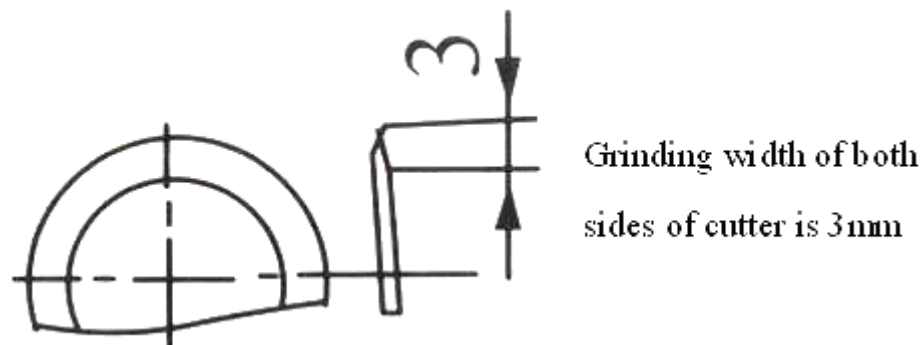


Fig. 10 Schematic diagram of grinding disk diffusion knife

6.4.3 Grinding of cross cutter

6.4.3.1 When the damage of cross cutter blade is slight, less than 2.5mm (If more than 2.5mm, the whole cutter should be replaced), grind the upper blade on the grinder or whetstone mechanically or manually. (Fig. 11)

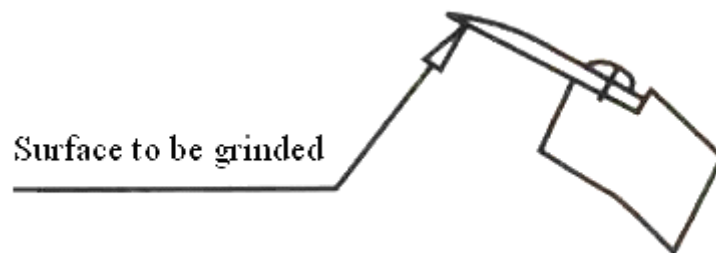


Fig. 11 Schematic diagram of grinding cross cutter

6.4.3.2 When demounting the cross cutter, put the whole cutter into hot water if the screws can't rotate.

7. Special purpose tools and usage

7.1 Special purpose tools



Hook cover



Y- wrench

7.2 Use method

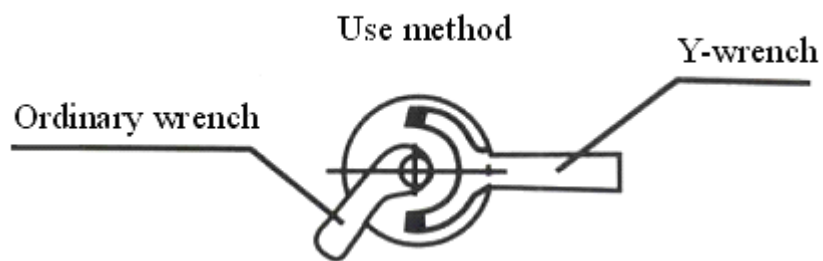


Fig. 13 Special purpose tools and use method

8. Schematic diagram of electrical appliance

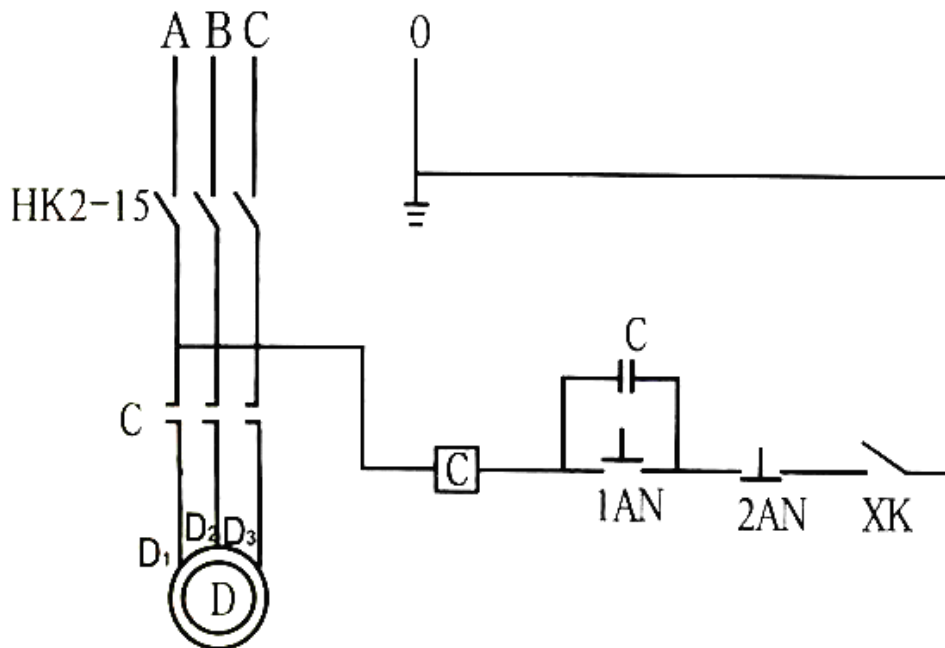


Fig. 12 Schematic diagram of electrical appliance

9. Transportation and stockpile

9.1 Knock, lean and inversion are forbidden during transportation, in order to avoid damage to the machine and affect the usage.

9.2 The machine should be put in dry, free from corrosion gas condition, and void contacting with erosive objects when it is not used for a long time.

10. Packing list

Serial Number	Name	Number	Remark
1	Complete appliance	1	
2	Instruction book	1	
3	Cube cutter	5mm and 10mm each	One of them has been fixed in the machine
4	Assemble disk diffusion knife	5 and 10 each	One of them has been fixed in the machine
5	Hook cover	1	
6	Y- wrench	1	

ISO9001 quality system certification enterprise

CHD100 Cuber

User's Manual

Respect user: Please read this manual carefully before installing and use.

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