MODEL CWI-DP276-VFD

FOR YOUR SAFETY:

READ ALL INSTRUCTIONS CAREFULLY

ENGLISH
Operating Instructions

Dear Customer,

Many thanks for the confidence you have shown in us with the purchase of your new machine. This manual has been prepared for the owner and operators of a **CWI-DP276-VFD Drill Press** to promote safety during installation, operation and maintenance procedures. Please read and understand the information contained in these operating instructions and the accompanying documents. To obtain maximum life and efficiency from your machine, and to use the machine safely, read this manual thoroughly and follow instructions carefully.

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1. Declaration of conformity

On our own responsibility we hereby declare that this product complies with the regulations* listed on page 2. Designed in consideration with the standards**.

2. Warranty

Guarantees that the supplied product(s) is/are free from material defects and manufacturing faults.

This warranty does not cover any defects which are caused, either directly or indirectly, by incorrect use,

carelessness, damage due to accidents, repairs or inadequate maintenance or cleaning as well as normal wear

and tear.

3. Safety

3.1 Authorized use

This drill press is designed for drilling wood and machinable metal and plastic materials only. Machining of other materials is not permitted and may be carried out in specific cases only after consulting with the manufacturer.

Never cut magnesium-
high danger of fire!

The work-piece must allow to safely be loaded and clamped for machining.

The proper use also includes compliance with the operating and maintenance instructions given in this manual.

The machine must be operated only by persons familiar with its operation and maintenance and who are familiar with its hazards.

The required minimum age must be observed.

The machine must only be used in a technically perfect condition.

When working on the machine, all safety mechanisms and covers must be mounted.

In addition to the safety requirements contained in these operating instructions and your country's applicable regulations, you should observe the generally recognized technical rules concerning the operation of wood- and metal-working machines.

Any other use exceeds authorization. In the event of unauthorized use of the machine, the manufacturer renounces all liability and the responsibility is transferred exclusively to the operator.

3.2 General safety notes

Drill press can be dangerous if not used properly. Therefore the appropriate general technical rules as well as the following notes must be observed.

Read and understand the entire instruction manual before attempting assembly or operation.

Keep this operating instruction close by the machine, protected from dirt and humidity, and pass it over to the new owner if you part with the tool.

No changes to the machine may be made.

Daily inspect the function and existence of the safety appliances before you start the machine.
Do not attempt operation in this case, protect the machine by unplugging the power cord.

Before operating the machine, remove tie, rings, watches, other jewellery, and roll up sleeves above the elbows. Remove all loose clothing and confine long hair.

Wear safety shoes; never wear leisure shoes or sandals.

Always wear the approved working outfit:

- safety goggles
- ear protection
- dust protection

Do not wear gloves while operating this machine.

Install the machine so that there is sufficient space for safe operation and work-piece handling.

Keep work area well lighted.

The machine is designed to operate in closed rooms and must be bolted stable on firm and level table surface or on the supplied cabinet stand.

Make sure that the power cord does not impede work and cause people to trip.
Keep the floor around the machine clean and free of scrap material, oil and grease.

Stay alert!
Give your work undivided attention.

Use common sense. Do not operate the machine when you are tired.

Keep an ergonomic body position. Maintain a balanced stance at all times.

Do not operate the machine under the influence of drugs, alcohol or any medication. Be aware that medication can change your behaviour.

Never reach into the machine while it is operating or running down.

Keep children and visitors a safe distance from the work area.

Never leave a running machine unattended. Before you leave the workplace switch off the machine.

Do not operate the electric tool near inflammable liquids or gases.
Observe the fire fighting and fire alert options, for example the fire extinguisher operation and place.

Do not use the machine in a dump environment and do not expose it to rain.

Before machining, remove any nails and other foreign bodies from the work-piece.

Work only with well sharpened tools.

Machine only stock which rests securely on the table.

Always close the chuck cover before you start the machine.

Specifications regarding the maximum or minimum size of the work-piece must be observed.

Do not remove chips and work-piece parts until the machine is at a standstill.

Do not stand on the machine.

Connection and repair work on the electrical installation may be carried out by a qualified electrician only.

Have a damaged or worn power cord replaced immediately.

Make all machine adjustments or maintenance with the machine unplugged from the power source.

Never place your fingers in a position where they could contact the drill or other cutting tool if the work piece should unexpectedly shift or your hand should slip.

Secure work-piece against rotation. Use fixtures, clamps or a vice to hold the work-piece.
Never hold the work-piece with your hands alone.

Whenever possible, position the work piece to contact the left side of the column. If it is too short or the table is tilted, clamp solidly to the table. Use the table slots or clamping ledge around the outside of the table.

When using a drill press vice, always fasten it to the table.

Never do any works “freehand” (hand-holding the work piece rather than supporting it on the table), except when polishing.

Securely lock the head to the column and the table bracket to the column before operating the press.

Never move the head or the table while the machine is running.

If a work piece overhangs the table such that it will fall or tip if not held, clamp it to the table or provide auxiliary support.

Do not use wire wheels, router bits, shape cutters, circle cutters, or rotary planers on this drill press.

To avoid injury from parts thrown by the spring, follow instructions exactly as given when adjusting the spring tension of the quill.

To avoid injury from parts thrown by the spring, follow instructions exactly as given in chapter 7.5.

3.3 Remaining hazards

When using the machine according to regulations some remaining hazards may still exist.

The rotating drill bit can cause injury.

Thrown work-pieces and work-piece parts can lead to injury.

Dust, chips and noise can be health hazards. Be sure to wear personal protection gear such as safety goggles and dust mask. Use a suitable dust collection system.

The use of incorrect mains supply or a damaged power cord can lead to injuries caused by electricity.

4. Machine specifications

4.1 Technical data

DP43016B-VS

Spindle to column	215mm
Spindle travel	80mm
Spindle taper	MT-2/B16
Chuck size	16mm
Column diameter	80mm
Table size	315 x315mm
Overall height	1065mm
Number of speeds	2
Range of speeds	0 - 3000 rpm

DP43016F-VS

Spindle to column	215mm
Spindle travel	80mm
Spindle taper	MT-2/B16
Chuck size	16mm
Column diameter	80mm
Table size	315 x315mm
Overall height	1630mm
Number of speeds	2
Range of speeds	0 - 3000 rpm

4.2 Noise emission

Acoustic pressure level
(according to EN ISO 11202):

Idling	LpA 71,8 dB(A)
In operation	LpA 84,0 dB(A)

The specified values are emission levels and are not necessarily to be seen as safe operating levels.
As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.

4.3 Content of delivery

Head assembly
Table
Column and bracket assembly
Machine base
16mm keyless chuck
MT-2 or MT-3 arbor
3 down feed handles
Table bracket lock handle
Table bracket rising handle
Drill chuck guard
Drift key
Operating tools
Assembly kit
Operating manual
Spare parts list.

5. Transport and start up

5.1 Transport and installation

The machine is designed to operate in closed rooms and must be placed stable on firm and level ground. The machine can be bolted down if required.

For packing reasons the machine is not completely assembled.

5.2 Assembly

If you notice transport damage while unpacking, notify your supplier immediately. Do not operate the machine!

Dispose of the packing in an environmentally friendly manner.

Clean all rust protected surfaces with a mild solvent.

Attach the column assembly (A, Fig. 1) to the base (B, Fig. 1) with four M10 hex cap bolts (C, Fig 1). Tighten firmly.

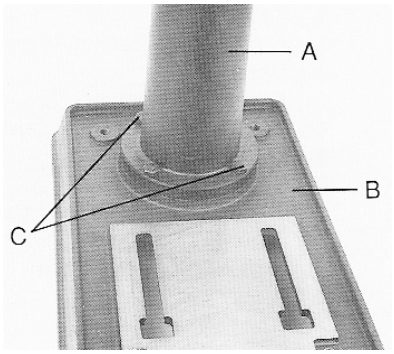


Fig 1

Thread the table bracket lock handle (A, Fig 2) into the table bracket (B, Fig 2).

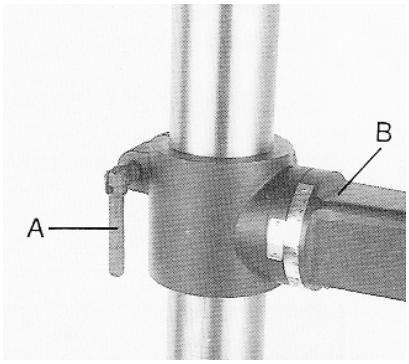


Fig 2

Slide the table bracket rising handle (B, Fig 3) onto the table bracket shaft.

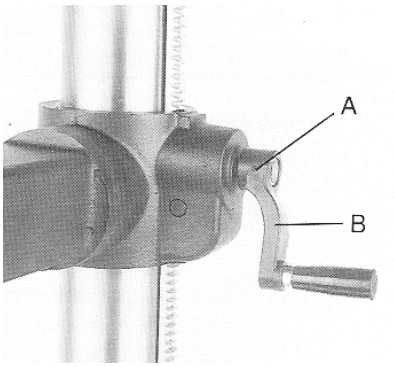


Fig 3

Turn the handle until the set screw is opposite the flat section on the shaft and tighten the set screw (A, Fig 3).

Insert the table into the table bracket.

Tighten the table lock handle.

With the aid of a second person, carefully lift the head onto the column top.
Caution: The head assembly is heavy! Use care when lifting onto the column!

Rotate the head assembly until the sides of the belt cover are parallel with the sides of the base.

Tighten two set screws (A, Fig. 4).

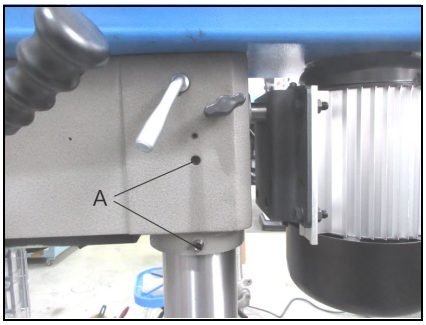


Fig 4

Install three down feed handles (A, Fig. 5) into the down feed hub (B).

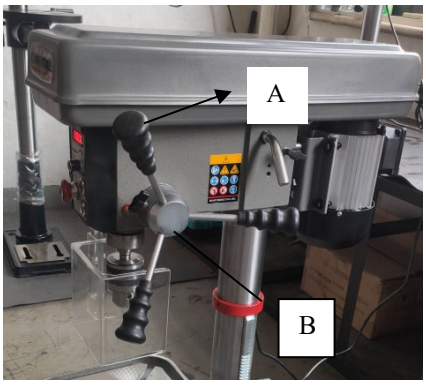


Fig 5

The Drill Chuck Guard Adjustment (Fig. 6.1).

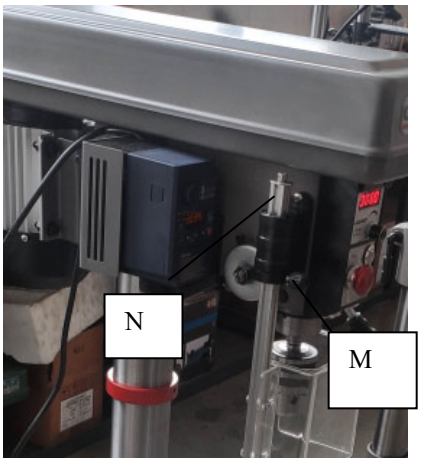


Fig 6.1

This clear plastic shield should be used whenever conducting a drilling or tapping operation. Clean the safety shield periodically to provide a clear view of the work piece. Adjustments can be done as follows.

1. Adjust the internal cover shield to have better range protection.
2. If both internal and external shields cannot provide enough protection, loosen locking bolt (M) to shift setting ring (N) in proper position.

Fig. 6.2

Raise the table to approximately 200mm below the spindle assembly.

Lock the table.

Place a piece of scrap wood on the table.

Thoroughly clean the spindle opening, the arbor, and the chuck.
Important:
These three pieces must be free of any rust protection or lubricant. If they are not clean, the arbor and chuck will fail to seat in the spindle and will fall out.

Place the arbor into the chuck.

Twist the chuck to retract the chuck jaws if they are exposed.

Place the arbor and chuck assembly into the spindle.

Turn the arbor and chuck assembly until the tang on the arbor engages the slot at the end of the spindle.

Lower the down feed handle so that the chuck meets the scrap wood. Pressure on the down feed handle once the chuck meets the scrap wood seats the arbor and chuck into the spindle (see Fig 7).

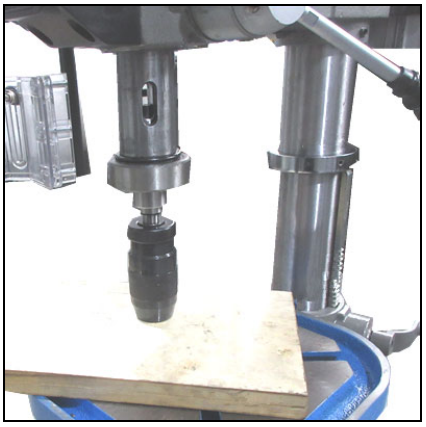


Fig 7

5.3 Mains connection

Mains connection and any extension cords used must comply with applicable regulations.

The mains voltage must comply with the information on the machine licence plate.

The mains connection must have a 10 A surge-proof fuse.

Only use power cords marked H07RN-F

Connections and repairs to the electrical equipment may only be carried out by qualified electricians.

5.4 Starting operation

Press L button to start the machine. Press T button to stop the machine, H button is for emergency stop. K button is to adjust the speed. You can choose the one needed.(Fig. 8).

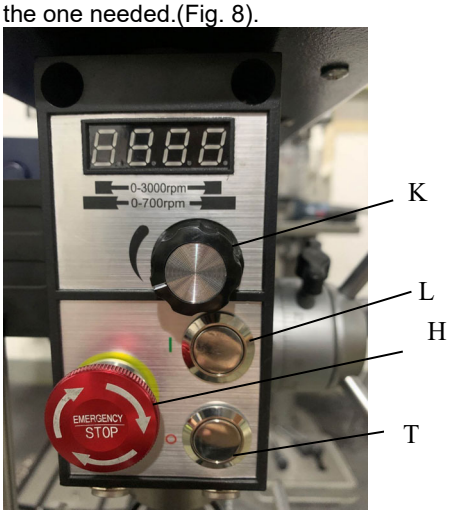


Fig 8

6. Machine operation

Always adjust the table and the depth stop to prevent drilling into the table. Use a back-up piece of scrap wood to cover the table. This protects both the table and the drill bit.

Secure work-piece to the table with clamps or a vice to prevent rotating with the drill bit.

Feed the bit into the material with only enough force to allow the drill bit to work. Feeding too slowly may cause burning of the work-piece. Feeding too quickly may cause the motor to stop and/or the drill bit to break.

Recommended speeds for a 10mm HSS drill:

Wood:	2000 RPM
Plastic:	1500 RPM
Aluminum:	1500 RPM
Brass:	1500 RPM
Cast iron:	1000 RPM
Mild steel:	800 RPM
High carbon steel:	600 RPM
Stainless steel:	300 RPM

Generally speaking, the smaller in relation the drill bit, the greater the RPM required.

Wood requires higher speeds than metal.
Metal is usually drilled at slower speeds; cutting oil is applied if necessary.

Warning:

Always keep your hands well clear of the rotating bit.

Do not remove chips and work-piece parts until the machine is at a standstill.

Always close the chuck guard and pulley cover before you start the machine.

When using a drill press vice, always fasten it to the table.

Never do any works “freehand” (hand-holding the work piece rather than supporting it on the table), except when polishing.

Support long work-pieces with helping roller stands.

Do not use wire wheels, router bits, shape cutters, circle cutters, or rotary planers on this drill press.

Never cut magnesium-
high danger of fire!

7. Setup and adjustments

General note:
Setup and adjustment work may only be carried out after the machine is protected against accidental starting by pulling the mains plug.

7.1 Removing the Chuck and Arbor

Unplug the machine from the power source.

Lower the quill using the down feed handle.

Rotate the spindle to align the key in the spindle with the key hole in the quill.

Insert the drift key (A, Fig 9) into the aligned slots and tap lightly. Have another person (or a protected table) catch the chuck and arbor assembly as it falls away from the spindle.

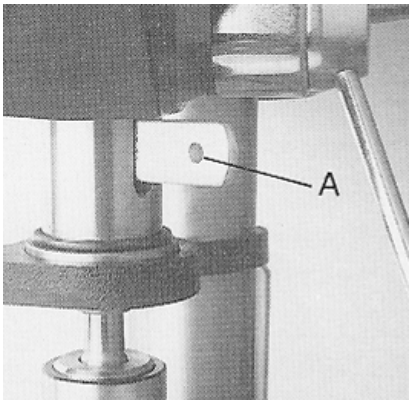


Fig 9

7.2 Adjusting the Depth Stop

To drill multiple holes at the same preset depth, use the depth stop:

With the drill bit in the chuck, lower the down feed handle to advance the chuck to the desired point.

Turn the depth scale collar (C, Fig. 10) counter-clockwise until it stops moving.

Tighten the depth scale lock (D).

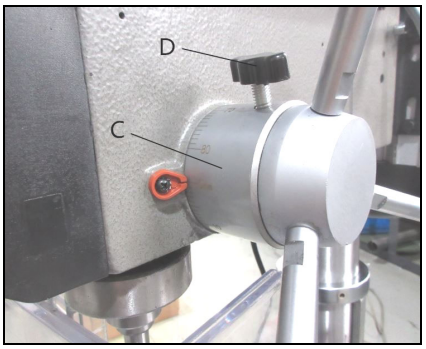


Fig 10

The drill bit will now advance only to this point.

7.3 Changing Spindle Speeds

Loosen the locking screw on the pulley cover, then open the cover.

A spindle speed and belt arrangement chart is found on the inside of the belt cover . Refer to this chart whenever changing speeds.

To change spindle speeds:

Unplug the machine from the power source.

Loosen two side bar bolts found on each side of the head assembly. (A, Fig 12).

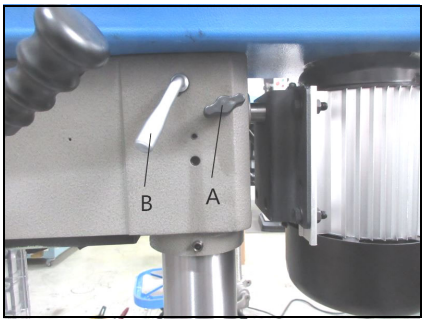


Fig 12

Rotate the tension adjuster (B) to bring the motor base as close to the head as possible.

Change the belts location according the speed chart and the speed you desire.

Rotate the tension adjuster (B) to tension the belts.

Tighten two slide bar bolts (A, Fig. 12). Belts are properly tensed when finger and thumb pressure midway between the two pulleys causes approximately 10 mm deflection.

Close and lock the pulley cover.

7.4 Table Tilt Adjustment

Disconnect the machine from the power source (unplug).

Fig 13

Loosen the hex cap bolt (C) to tilt the table.

Caution:
Only loosen the hex cap bolt slightly, otherwise the table assembly will separate from the column and fall.

Tighten the hex cap bolt.

7.5 Return Spring Adjustment

Disconnect the machine from the power source (unplug).

The return spring is adjusted at the factory and should not need further adjustment. If adjustment is necessary:

Unplug the machine from the power source.

Loosen two lock nuts (A, Fig 14) approximately 6mm.

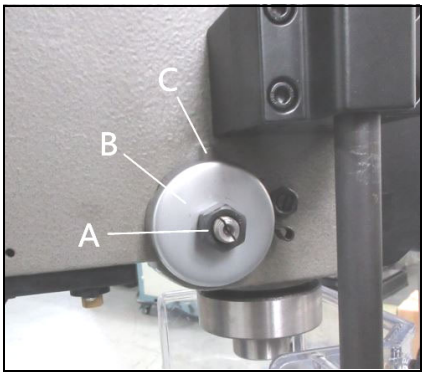


Fig 14

Firmly hold the coil spring cover (B).

Pull out the cover and rotate until the pin (C) on the return spring plate engages the next notch in the coil spring cover. Turn the cover clockwise to decrease tension and counter-clockwise to increase tension.

Tighten two lock nuts (A). Do not over-tighten. Nuts should not contact the housing when tight.

7.6 Cross Laser Adjustment

The lasers are designed for use with twist drill bits.

There will be shadowing with wider tools, such as Forstner bits, therefore use will be limited.

The two laser beams need to meet at the drill centre (Fig 15).

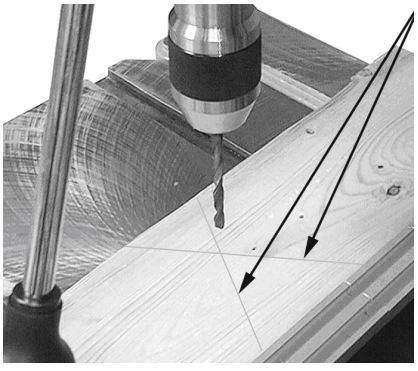


Fig 15

The Laser Assembly has been installed and preset at the factory.

To adjust, install a small drill bit and rotate lasers (A, Fig 16) gently with a set of pliers.

Loosen Screw (C) for adjustment.

ATTENTION:

Class 2 Laser

Do not stare into beam of laser

Do not view directly with optical instruments

Do not point the laser beam at people or animals.

Do not use the laser beam on highly reflective materials. Reflected laser light is dangerous.

A defective laser beamer may be replaced only, not repaired.

8. Maintenance and inspection

General notes:
Maintenance, cleaning and repair work may only be carried out after the machine is protected against accidental starting by pulling the mains plug.

Lubrication:
Periodically lubricate the gear and the rack, the table elevation mechanism, the drive splines (grooves) in the spindle, and the teeth of the quill gently with grease.

Clean the machine regularly.

Defective safety devices must be replaced immediately.

Repair and maintenance work on the electrical system may only be carried out by a qualified electrician.

9. Trouble shooting

Motor doesn't start
*No electricity-
check mains and fuse.

*Defective switch, motor or cord-
consult an electrician.

Chuck will not stay on spindle
*Oil or grease on contact surfaces-
clean the tapered surfaces of chuck and spindle.

Machine vibration
*Incorrect belt tension-
Adjust belt tension.

*Dry spindle quill-
lubricate spindle quill.

*Spindle pulley loose-
tighten retaining nut.

*Motor pulley loose-
Tighten set screw.

*dull drill bit-
resharpen drill bit.

Drill bit burns
*incorrect speed-
reduce speed.

*Chips clogged-
retract drill bit frequently

*dull drill bit-
resharpen drill bit.

*feeding too slow-
feed faster.

Drill leads off
*cutting lips or angle not equal-
resharpen drill bit correctly.

*drilled hole off center-
drill a pilot hole first.

*bent drill bit-
use a proper drill bit.

*drill bit not properly installed-
install drill bit correctly.

10. Environmental protection

Protect the environment.

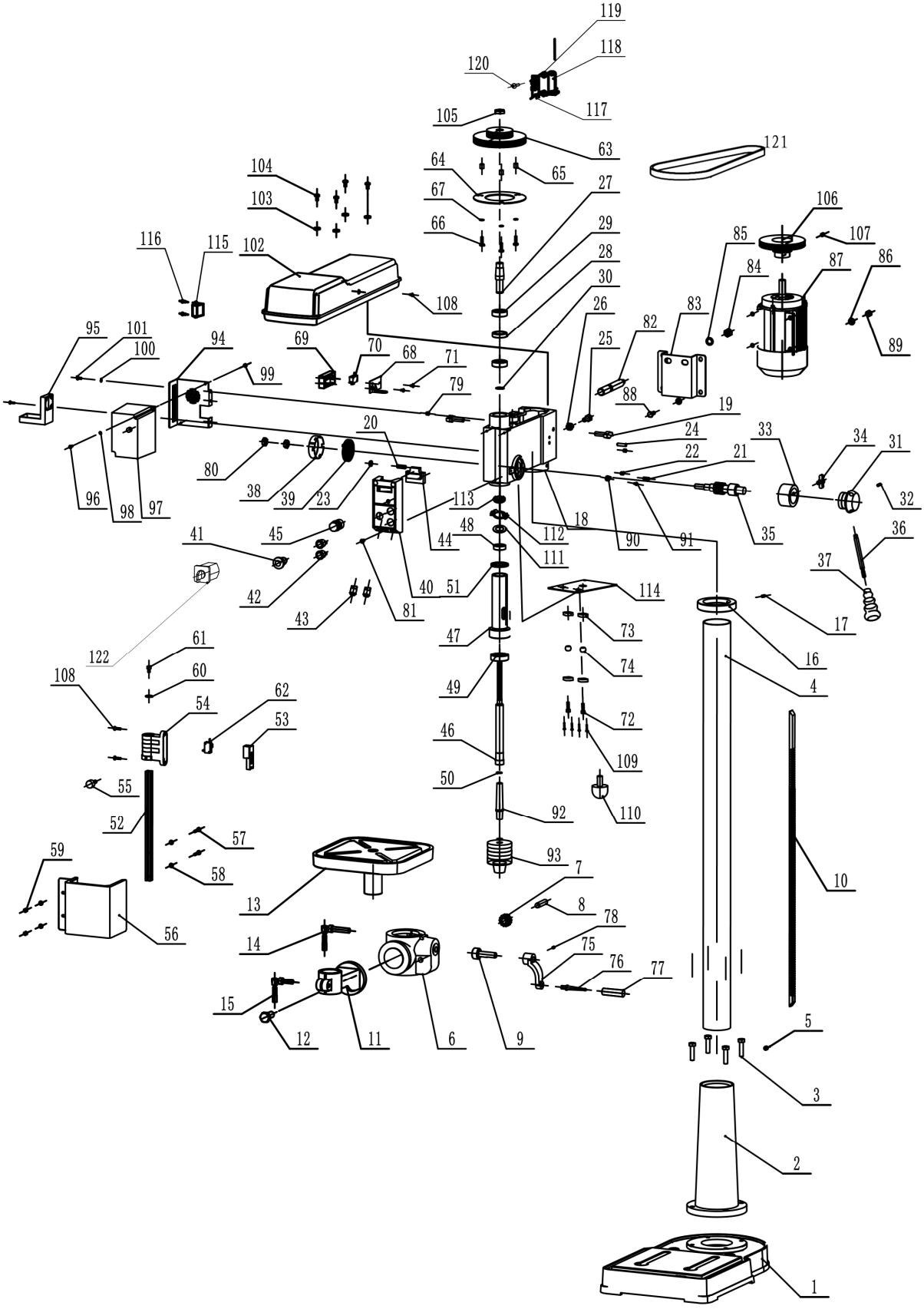
Your appliance contains valuable materials which can be recovered or recycled. Please leave it at a specialized institution.

This symbol indicates separate collection for electrical and electronic equipment required under the WEEE Directive (Directive 2012/19/EC) and is effective only within the European Union.

11. Available accessories

Refer to the Part list.

12.Assembly Breakdown



Parts List for Breakdown

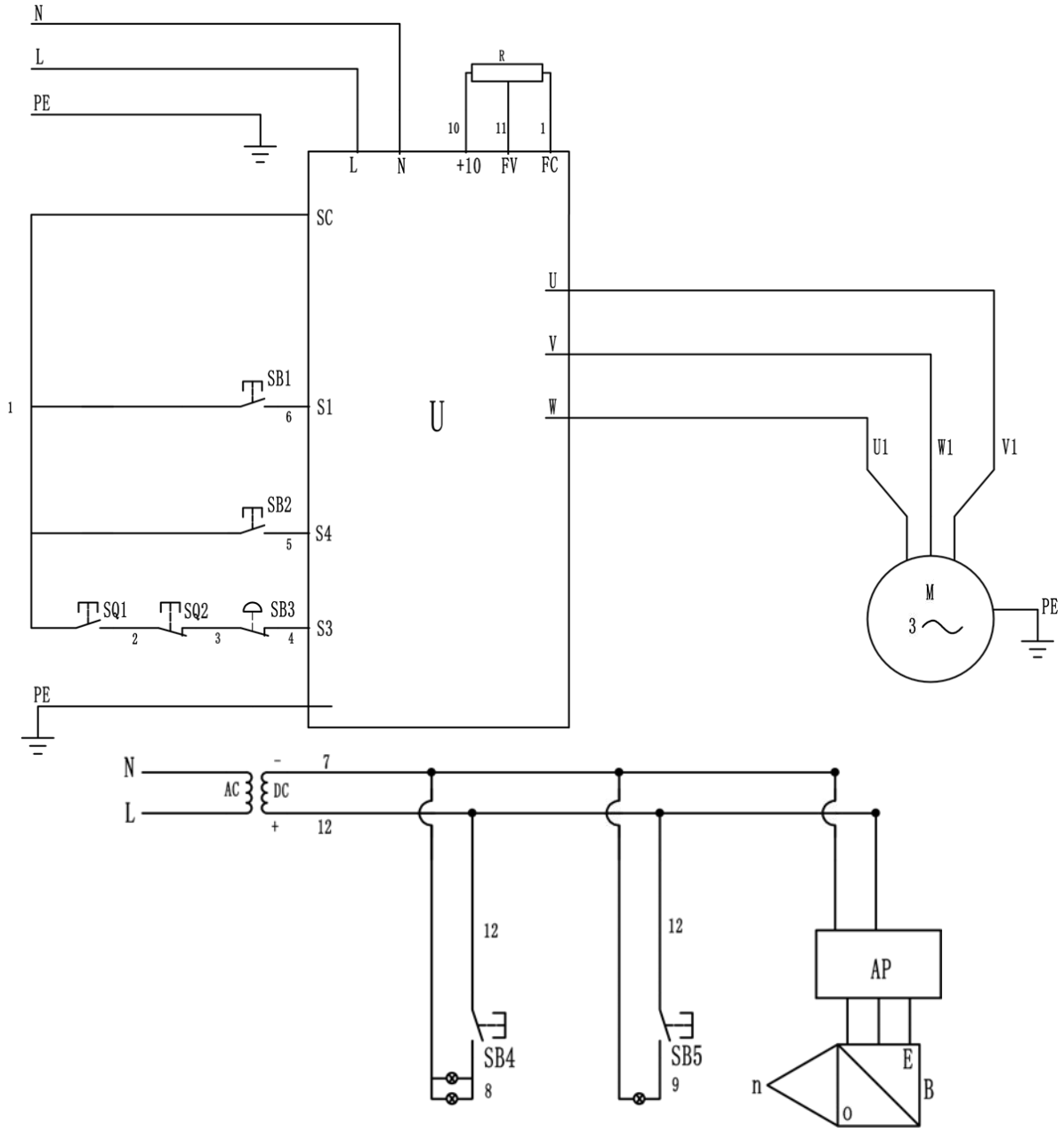
Index.No.	Part No.	Description	Qty.
1	1701001-A2	Base	1
2	1501002-03（DP43016B-VS）	Column Base	1
	1701002（DP43016F-VS）	Column Base	1
3	M10X40GB5781B	Hexagon bolt	4
4	1501003-03（DP43016B-VS）	Column	1
4	1701003（DP43016F-VS）	Column	1
5	M10X10GB80B	Hexagon socket setting screws	1
6	1701004	Holder	1
7	1501006	Helical gear	1
8	1501007	Gear pin	1
9	1501008	Worm shaft	1
10	1501010-01（DP43016B-VS）	Rack	1
	1501010（DP43016F-VS）	Rack	1
11	1701005	Corbel	1
12	M16X35GB5781B	Hexagon bolt	1
13	1701014-A1	Table	1
14	1501012	Column lock handle	1
15	1501013	Table lock handle	1
16	1701011	Rack collar	1
17	M6X10GB80B	Hexagon socket setting screws	1
18	1702001-A2	Head	1
19	1502005	Motor lock knob	2
20	1502021	Screw	1
21	1504010	Screw	1
22	M8X8GB80B	Hexagon socket setting screws	2
23	M8GB6172B	Nut	1
24	PIN6X26GB879D1B	Pin	2
25	M10X25GB5781B	Hexagon bolt	2
26	M10GB6170B	Nut	2
27	1702022	Driving sleeve	1
28	1702023	Spacer	1
29	BRG6205-2RSGB276	Ball bearing	2
30	CLP15GB894D1B	C-clip	1
31	1504001	Hub	1
32	PIN5X16GB879D1B	Pin	1
33	1504003-02	Collar Depth stop w/scale	1
34	0802005	Depth lock knob	1
35	1504002	Pinion shaft	1
36	1504005-03	Handle	3
37	1504011-03	Ball knob	3
38	1504008	Spring cap	1
39	1504009	Coil spring	1
40	1702008-VS	Switch box	1
41	YL19S-D11M	Emergency stop switch	1
42	YL22C-A10P	Self-return switch button	2
43	YL16C-A11G	Self-locking switch button	2
44	CB07-11B	Revolution meter	1
45	B103	Potentiometer	1
46	1703001	Spindle	1
47	1703002	Quill	1
48	BRG6203-2RSGB276	Ball bearing	1
49	BRG6205-2RSGB276	Ball bearing	1
51	1703006	Crash pad	1
52	1509001-2	Chuck guard rod	1
53	1509002	Micro switch base	1
54	1509003	Micro switch cover	1

Index.No.	Part No.	Description	Qty.
55	1509006	Lock knob	1
56	1509001	Chuck guard	1
57	M5X25GB818Z	Cross pan head screw	2
58	WSH5GB97D1Z	Washer	4
59	M5GB6170Z	Nut	2
60	M6GB96D1Z	Washer	1
61	M6X10GB70D1Z	hexagon socket cap screws	1
62	KW-7-0	Micro switch	1
63	1305009-A4	Spindle pulley	1
64	1308001	Locking ring	1
65	1009005	Padding block	3
66	M6X20GB818Z	Cross pan head screw	3
67	WSH6GB859Z	Washer	3
68	1502030	Micro switch cover	1
69	JL20073002	Micro switch cap	1
70	KW-7-3C	Micro switch	1
71	ST4.2X9.5GB845Z	Cross pan head screw	2
72	JGD-DC3V	Laser light	1
73	RB1409015	Laser light base	2
74	RB1809017	Laser light locking ring	1
75	L1501009-1	Crank arm shaft	1
76	1501009-3	Crank arm handle shaft	1
77	1501009-2	Crank arm handle grip	1
78	M6X8GB80B	Hexagon socket setting screws	1
79	M8X8GB80B	Hexagon socket setting screws	1
80	1504013	Nut	2
81	M5X12GB818Z	Cross pan head screw	3
82	1702003	Motor rod	2
83	1902007-01	Motor base	1
84	M12GB6170B	Nut	2
85	WSH12GB859Z	Washer	2
86	WSH8GB97B	Washer	8
87	A7138514	Motor	1
88	M8X20GB5781B	Hexagon bolt	4
89	M8GB6170B	Nut	4
90	1506003-01	Pointer	1
91	M4X8GB818B	Cross pan head screw	1
92	B16-MT2	Arbor	1
	B16-MT3	Arbor（selective assembly）	1
93	1-16 B16	Chuck	1
	1-16 ZB16	Chuck（selective assembly）	1
94	1704016	Frequency converter base	1
95	1704017	Cable protector	1
96	M4X12GB818Z	Cross pan head screw	6
97	J7100-1.5KW	Frequency converter	1
98	WSH4GB859Z	Washer	2
99	M4GB6170Z	Nut	2
100	WSH5GB859Z	Washer	3
101	M5X10GB818B	Cross pan head screw	3
102	1705000-VS	Pulley cover assembly	1
103	0805009	Soft washer	4
104	M6X12GB818B	Cross pan head screw	4
105	1502025	Nut	1
106	1305005-A3	Motor pulley	1
107	M8X10GB80B	Hexagon socket setting screws	1
108	M5X16GB818Z	Cross pan head screw	3
109	M3X16GB818Z	Cross pan head screw	4
110	1309050	LED light	1
111	1503003	Washer	1

Index.No.	Part No.	Description	Qty.
112	1503004	Washer	1
113	1503005	Nut	1
114	1709055	Head cover	1
115	B26-7B	Transformer	1
116	M5X16GB818Z	Cross pan head screw	2
117	CB07-5L	Sensor	1
118	1304019	Sensor base	1
119	M3GB6170Z	Nut	2
120	M3X14GB818B	Cross pan head screw	2
121	440J	Poly V-belt	1
122	LW26	selector switch（selective assembly）	1

Wiring Diagram

1~230V OR 1~110V

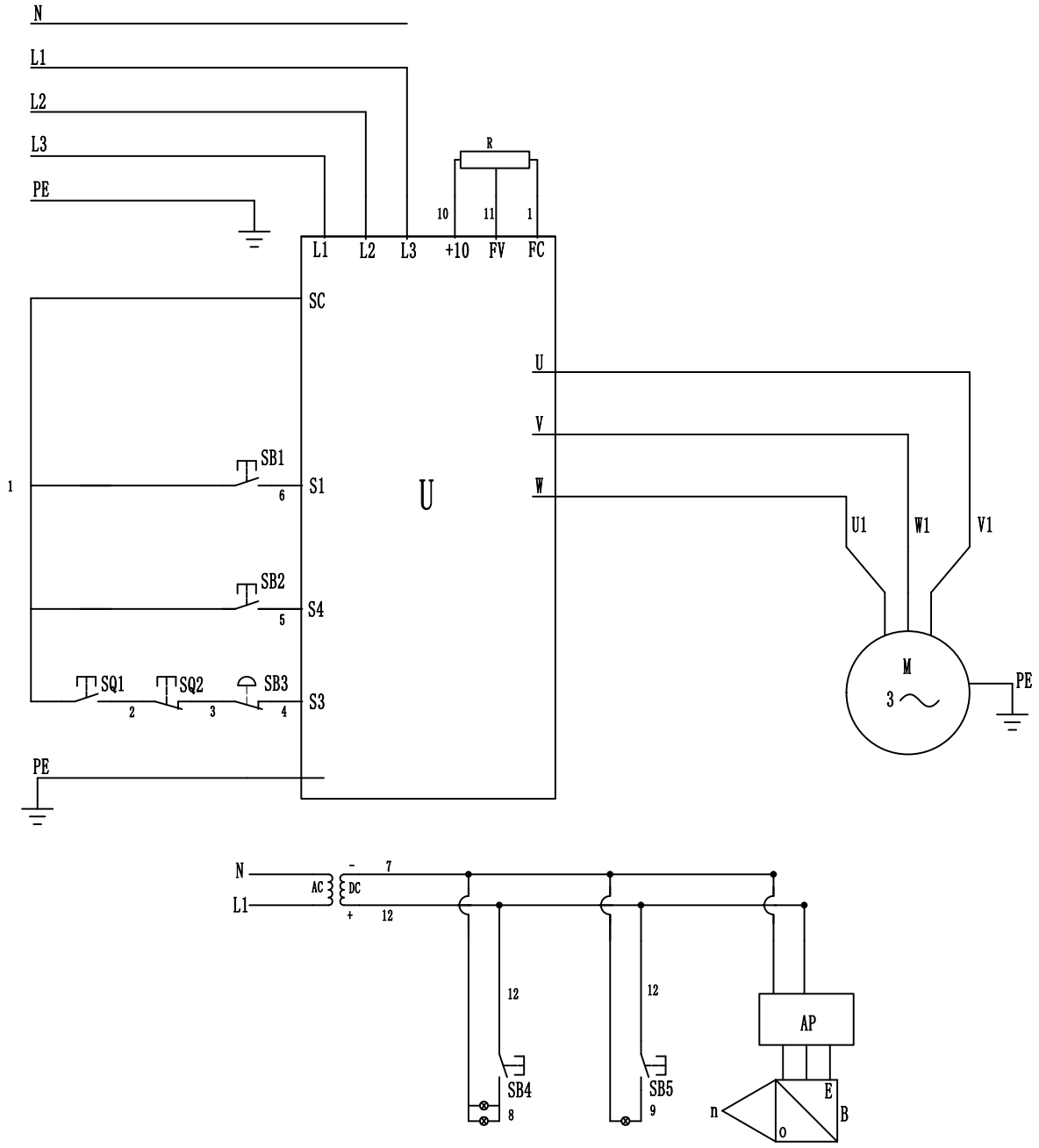


Electrical parts list

SB1	Start switch		SQ1	Micro switch	
SB2	Stop switch		SQ2	Micro switch	
SB3	Emergency stop switch		M	Motor	
SB4	Laser light switch		AP	Revolution meter	
SB5	LED light switch		U	Frequency converter	
R	Potentiometer		HL	Laser light	
HL	LED light		T	Transformer	

Wiring Diagram

3~400V



Electrical parts list

SB1	Start switch		SQ1	Micro switch	
SB2	Stop switch		SQ2	Micro switch	
SB3	Emergency stop switch		M	Motor	
SB4	Laser light switch		AP	Revolution meter	
SB5	LED light switch		U	Frequency converter	
R	Potentiometer		HL	Laser light	
HL	LED light		T	Transformer	

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