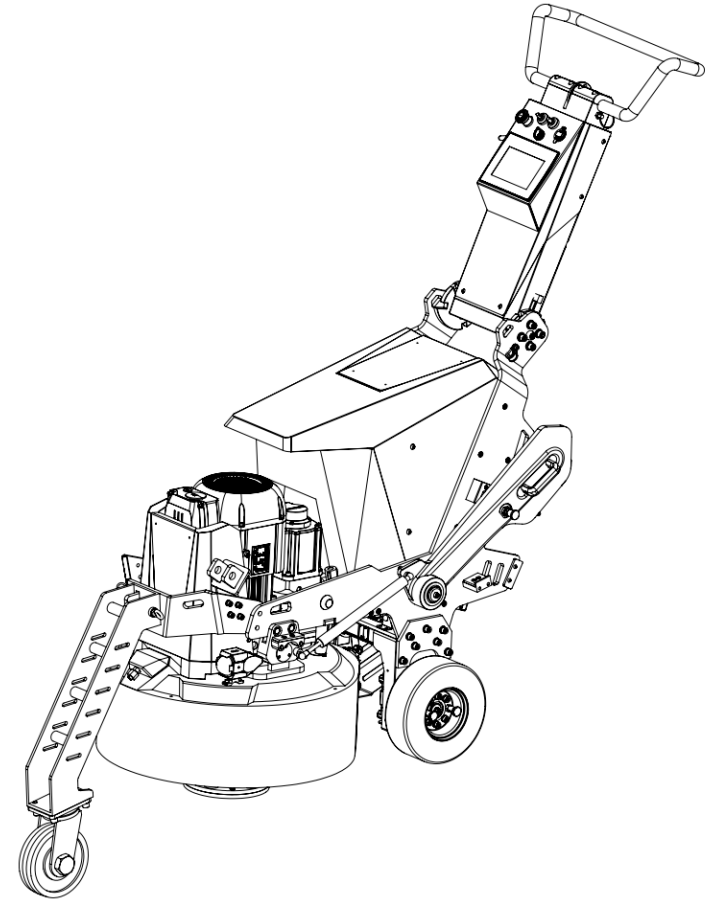


THE LEADER IN GEAR DRIVEN FLOOR GRINDERS



HIGH TECH GRINDING



THANK YOU FOR CHOOSING HTG!

PLEASE REGISTER YOUR MACHINE INFORMATION ON THE WEBSITE.

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MANUAL OF

HTG-680GBD

CONTENTS

1. Introduction

1.1 Summary	01
1.2 Liability	01
1.3 Spare parts	01
1.4 Receiving goods	01
1.5 Machine information metal plate	02
1.6 Processing and storage	02
1.7 Warranty	02

2. Risk List

2.1 General safety instructions	03
2.2 Operation Safety Instructions	03
2.2.1 Personal protective equipment	04
2.2.2 Work area safety	05
2.3 Electricity safety tips	06
2.4 Safety warning signs	07

3. Machine

3.1 Overview	08
3.2 Parts exploded diagram	09
3.3 Swing handle assembly	29
3.3.1 Overview	29
3.3.2 USB interface	30
3.3.3 HMI	31
3.3.4 Handle	35
3.3.5 Swing handle angle adjustment	35
3.4 Electrical cabinet assembly	36
3.5 Camlock	37
3.6 Water Tank	37
3.7 Counterweight	39
3.8 Self-locking indexing pin	39
3.9 Front wheel	41
3.9.1 Disassembly of front wheel	41
3.9.2 Flipping of front wheel	42

4. Remote control equipment

4.1 Remote control - control panel	43
4.2 U- turn	45
4.2.1 Overview	46
4.2.2 Use of remote control	46
4.2.3 Use of charger	47
4.2.4 Wearing the remote control	48

5. Transportation

5.1 Manual	49
5.2 Remote control	50
5.3 Transportation and storage	51
5.4 Machine position description	52
5.4.1 Machine working position	52
5.4.2 Machine packaging position	52
5.4.3 Machine tilt position	53
5.4.4 Lifting Machine	54
5.4.5 Notes	55

6. Machine operation

6.1 Overview	56
6.2 Starting and stopping the grinder	56
6.2.1 Manual mode operation	56
6.2.2 Remote control mode operation	59
6.3 Replacement of abrasive	64
6.4 The winding method of machine working wire	64
6.5 Optimal grinding route	65
6.6 Notes	66

7.Machine maintenance

7.1 Overview	67
7.2 Daily Inspection	67
7.2.1 Check the switch	67
7.2.2 Check the grinding disc cover	67
7.2.3 Check the grinding disc	67
7.2.4 Long-term storage of battery	67
7.2.5 Note	68
7.3 Cleanup	68
7.3.1 Clean the switch	68
7.3.2 Maintenance of remote control equipment	68
7.3.3 Cleaning the grinding disc cover	69
7.3.4 Cleaning the velcro-adapter	69
7.3.5 Note	69
7.3.6 Abrasive wearing	70
7.4 Battery disposal	70
7.4.1 Overview	70
7.4.2 Battery	71
7.5 Overload protection	71
7.6 Repair	71

8. Common Problems And Solutions

9. Technical Data	73
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10. Warranty	74
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1. Introduction

1.1 Summary

HTG's machines are used to treat floor surfaces. The range of use of the machine depends on the choice of tools. In addition to usage and general functions, this manual provides information on the use, repair and maintenance of the grinder. For further information, contact your local retailer.

1.2 Liability

We have made every effort to make this manual as complete and accurate as possible, and we do not assume any responsibility for any errors or missing information. HTG reserves the right to change the instructions in this manual without prior notice.

This manual is protected by copyright law. No part of it may be copied or used without the written consent of HTG.

1.3 Spare parts

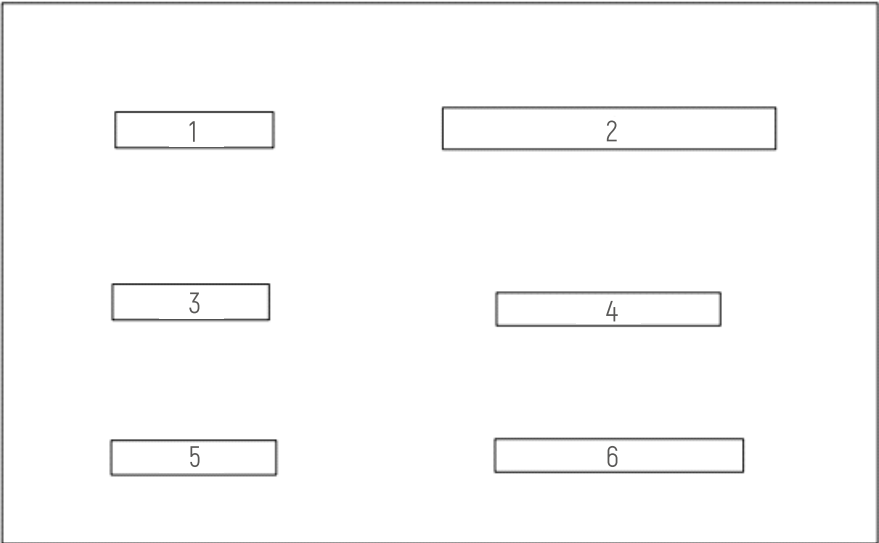
- The product mainly includes the following items, if anything is missing please contact the retailer.
- (1) Machine*1
 - (2) Manual*1
 - (3) Socket *1
 - (4) Dust skirt*1
 - (5) Electrical cabinet key *1
 - (6) 4" velcro-adapters *9 (another 9 are installed on the machine grinding disc)
 - (7) Remote control box (including remote control, charger, battery, strap)*1
 - (8) Lead-acid battery charger*1

1.4 Receiving goods

Carefully inspect the packaging and the machine for shipping damage. If the machine shows any signs of damage, contact the retailer and report the damage. If the packaging is damaged, report the packaging damage to the shipping company.

Check that the delivery is what you ordered. If you have any questions, contact the retailer.

1.5 Machine information metal plate



- | | |
|--------------------|------------|
| 1. Model | 4. Voltage |
| 2. Production date | 5. Current |
| 3. Power | 6. Weight |

1.6 Processing and storage

The grinder should be stored in a dry place at room temperature when not in use. Otherwise it may be damaged by condensation and cold. The dimensions and weight of the grinder are given in the technical data of (See P73).

1.7 Warranty

This warranty covers manufacturing defects only. HTG is not responsible for damages that occur during transportation, unpacking or use. In no case will HTG be responsible for damages and defects caused by improper use, corrosion or use beyond the specified specifications. HTG is not responsible for consequential damages or expenses in any case. For complete information on the product warranty period, please refer to HTG's current warranty terms. Local dealers may have special warranty terms. If there is anything unclear about the warranty terms, please contact your retailer.

2. Risk List

2.1 General safety instructions



Warning: Please read the following carefully before using the machine.

1. This manual lists important information for using this machine and operating it safely! You must read this manual carefully before operating this machine for the first time!
2. This product must not be operated unless the operator has read and understood the contents of the operator's manual.
3. Never rent a machine without its operating instructions.
4. Please comply with local laws and regulations when using this device.
5. All work must be done by trained and qualified professionals, and operators should ensure safety and prevent dangers during operation.
6. Do not operate this product when you are tired, sick, or under the influence of alcohol or drugs.
7. Keep this device out of reach of children.
8. This machine. When the machine is working, please be careful not to let children or unrelated people approach the machine, keep a certain working distance and remember "one machine, one person".
9. Do not modify the product at will, and do not use illegally modified products. Only personnel designated by HTG Company can perform repairs and modifications using accessories provided by HTG Company.
10. Keep the product clean and ensure that you can read markings and labels clearly.
11. The products used should be intact and undamaged to ensure safe use.

2.2 Operation Safety Instructions



Warning: Please read the following carefully before using the machine.

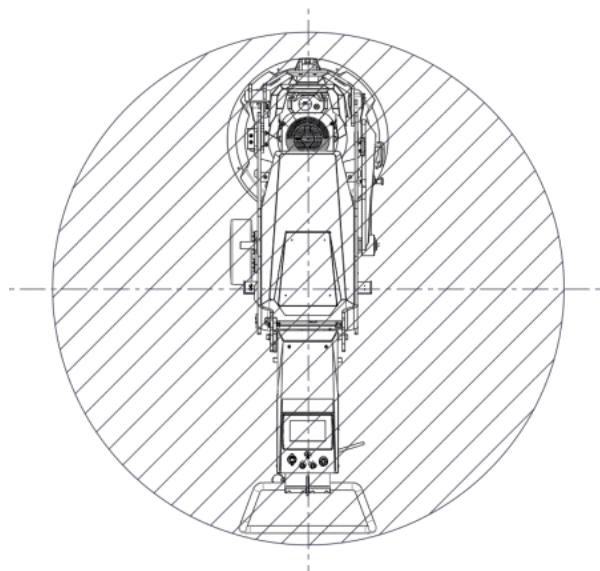
1. When working, you should be equipped with professional personal protective equipment.
2. This machine is only used for floor surface grinding and polishing. Please do not use it in other occasions.
3. HTG machines can only be used in the way recommended by HTG. Please read and understand the operating instructions of the machine manual. Different models have different accessories and control operations. Wrong operation may cause safety problems.
4. This machine must be operated at a slope less than 20°. The company does not assume any responsibility for any accidents caused by operation at a slope greater than 20°.

5. When driving on a slope, check that the battery power is greater than 40% and make sure that the self-locking indexing pin is in the locked state.
6. When the machine is operating, the operator should not leave the product and ensure that the product operates normally within sight.
7. When leaving this product, please press the emergency stop switch and disconnect the power cord.
8. Before operation, make sure the dust skirt is installed on the machine to prevent dust from being inhaled into the lungs and causing harm, and to prevent the soles of your feet from accidentally touching the grinding disc.
9. Do not pull the hose to prevent the machine from tipping over and causing injury.
10. During operation, ensure that the machine is in a safe and stable position to prevent personal injury during operation.
11. Keep your body, hair, jewelry, and loose clothing away from moving parts of the machine, otherwise it may cause physical injury.
12. If the machine is found to be working abnormally, such as abnormal vibration, abnormal noise, etc., stop using the machine immediately and have it checked for damage and repaired by authorized dealers and maintenance personnel.

2.2.1 Personal protective equipment

1. When operating the equipment, please make sure to wear personal protective equipment that meets the standards to reduce the harm caused by accidents.
2. Please do not wear loose clothes or carry anything that could be dangerous, such as scarves, bracelets, rings, etc. Tie your hair up when operating the machine to avoid it being caught in the machine and causing injury.
3. Be sure to wear certified protective glasses to prevent dust or foreign objects from damaging your eyes.
4. Certified rubber protective gloves must be worn to ensure a firm grip and prevent wet concrete from injuring your palms.
5. Certified safety shoes must be worn with steel toes and non-slip soles to avoid slipping and foot injuries.
6. The machine will generate noise and dust when working. Protective earmuffs and masks must be worn to avoid noise damage to the ears and dust inhalation into the lungs to damage the respiratory tract.
7. A certified protective helmet must be worn.
8. Make sure there are fire extinguishers, first aid kits and other supplies at the work site to prevent accidents.

2.2.2 Work area safety



1. As shown in the figure above, except for the operator, no other personnel are allowed to enter this area, and the operator in this area should be extra careful during operation.
2. Do not use the machine in rain, lightning, dense fog, strong wind or other adverse conditions.
3. Do not operate the machine near explosive or flammable materials or steam. Do not operate the machine near dust, solvents, thinners or other flammable items.
4. HTG-680GBD can be remotely operated by remote control. When operating remotely, ensure that the machine and dangerous objects are within the field of vision to avoid accidents.
5. Before the equipment is put into operation, check the ground area to be ground and remove any hard objects such as bolts and nails that may cause damage to the grinding disc or equipment. For hard objects such as steel bars and expansion bolts protruding from the ground, use a cutting machine to clean the part protruding from the ground in advance.

2.3 Electricity safety tips

⚠ Warning: Please read the following carefully before using the machine.

1. All circuit repairs can only be performed by professionals.
2. After the machine stops, the circuit is still energized. All power supplies should be cut off before repairing the machine.
3. The machine is equipped with an overload protection device which will automatically trip and prohibit the machine from running when the machine is overloaded. (the overload can be readjusted under safe conditions)
4. HTG will not provide warranty for other losses and malfunction of the machine caused by continuous use of the machine under overload conditions.
5. The purpose of adding a inverter to the machine is to adjust the speed and protect the safety of the user and the machine. It is forbidden to modify or adjust the inverter or modify the inverter parameters without HTG's consent. If the device fails, only the accessories provided by HTG can be used to replace the broken accessories. (HTG will not provide warranty for other losses and machine failure caused by modifying or adjusting the inverter or modifying the inverter parameters without HTG's consent)
6. Never modify the internal parts or circuits of the inverter by yourself.
7. Do not operate the machine when the distribution box is not closed.
8. If the machine current is overloaded, special attention must be paid.
9. Never connect or remove wires when the wires are live or under load.
10. Using a damaged power cord may cause electric shock . Do not use a damaged power cord.
11. Keep wires away from high temperature surfaces.
12. All electrical assembly of the machine should be kept dry and the machine should be stored in a dry place.
13. After cutting off the power supply, before the panel indicator light goes out, it means that there is still high voltage inside the inverter, which is very dangerous. Do not touch the uninsulated electrical machine parts.
14. Do not allow water to enter the machine motor or inverter. (HTG will not provide warranty for other losses or malfunction of the machine due to water ingress)
15. The machine must use the wire specifications and voltage specifications specified by HTG. (The power specifications are indicated on the machine label)

2.4 Safety warning signs



Please read and understand the instructions before using this equipment.



Be sure to wear earmuffs and protective glasses to avoid noise damage to the ears and foreign objects damage to the eyes.



You must wear a protective mask to avoid inhaling dust and damaging your lungs.



Make sure all parts of the equipment are intact and all bolts are tightened, otherwise personal injury may occur.



Insulated rubber shoes must be worn, otherwise there may be a risk of electric shock.



High voltage danger, do not open, otherwise personal injury may occur.



Danger warning, please pay attention to the text description below this icon to avoid danger.



This is the hook mark.



Pay attention to voltage: 380V 3PH

3. Machine

3.1 Overview

HTG-680GBD is used to treat various types of floors. It is used to grind (rough grinding, grinding, polishing) concrete, natural stone and terrazzo floors or materials specified in this manual or recommended by HTG. It can be used for a variety of purposes from rough grinding to fine polishing. This machine is intended for commercial applications, such as hotels, schools, hospitals, factories, offices and other places.

The HTG-680GBD is equipped with radio control, which can realize remote control of the machine's movement at a certain distance. Settings can be changed and operation can be completed with just a few buttons. The digital display on the remote control makes it easy for the operator to make adjustments and monitor system information, making operation more convenient for the user. The machine is equipped with a digital color display and the handheld remote transmitter is equipped with a 3.5-inch digital color display.

The swing handle and the handle can be set in many different tilting positions. When the machine is operated manually, a position that is most suitable can be selected. The grinding head of the machine can be used with different grinding discs for grinding operations.

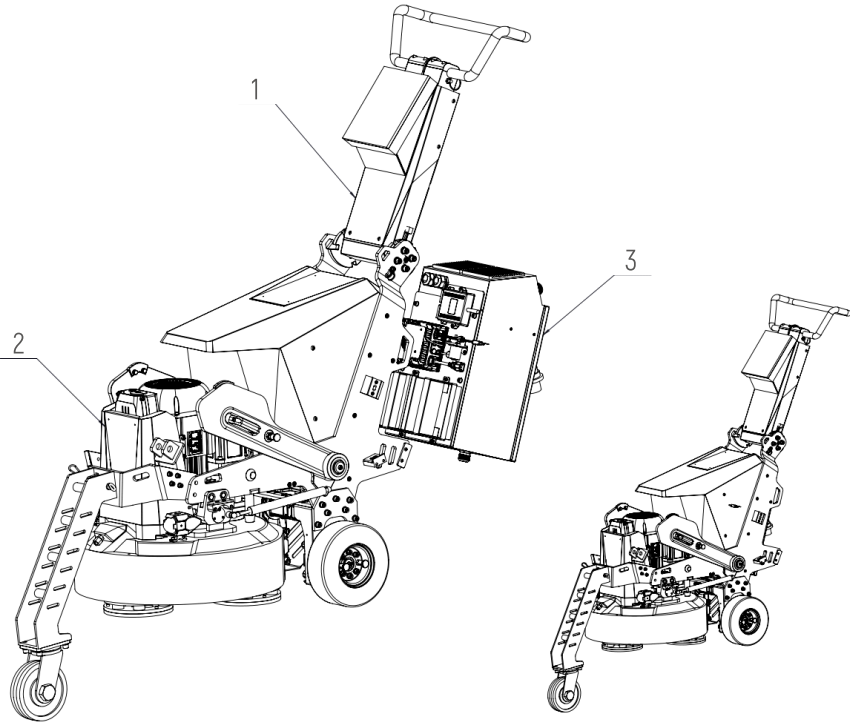
Equipped with a water tank so that the machine can not only dry grind, but also wet grind.

When dry grinding, be sure to connect a vacuum cleaner to the grinder (it is best to equip it with a vacuum cleaner that matches HTG for better results). This prevents dust from being exposed to the air and posing a threat to the health of the operator, operator, and nearby people. Inhaling dust is harmful, so during operation, even with a vacuum cleaner, you should wear a protective mask to protect your own health.

This machine can use different HTG abrasives, and the abrasives used in grinding will be different depending on the different ground materials.

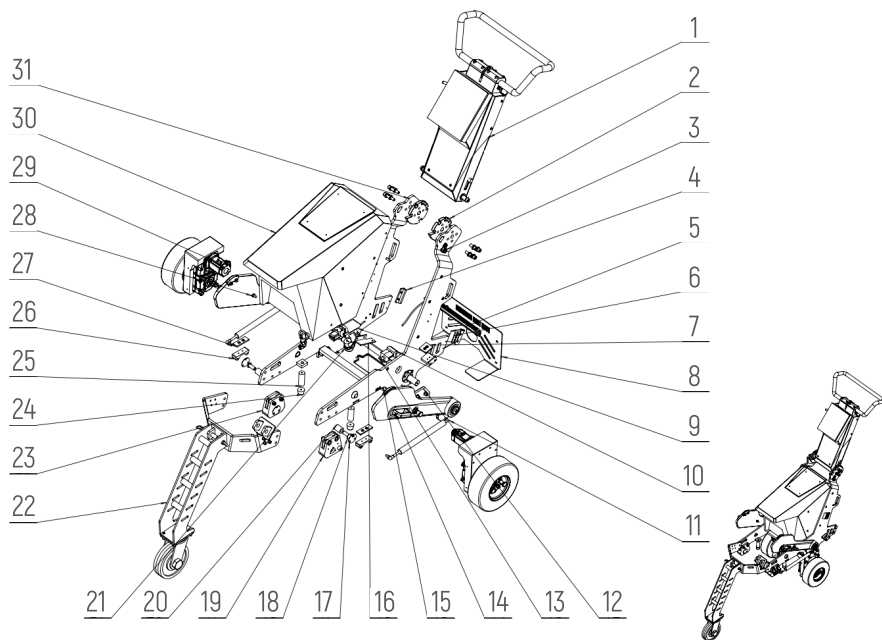
3.2 Parts exploded diagram

1. Grinder assembly



1.11.085.002 HTG-680GBD			
SN	Code	Name	QTY
1	2.11.085.001	Machine Frame Assembly	1
2	2.12.085.001	Machine Head Assembly	1
3	2.13.085.001	Electrical Cabinet Parts	1

2. Machine frame assembly

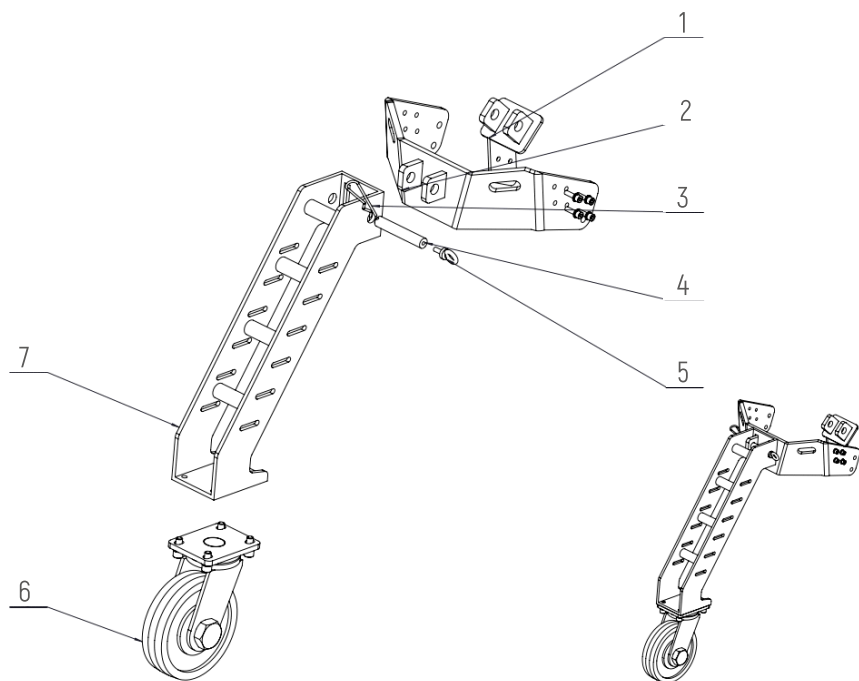


2.11.085.002 Machine Frame Assembly

SN	Code	Name	QTY
1	2.41.085.005	Swing Handle Assembly	1
2	4.11.085.048	Welding Piece	2
3	5.11.107.012	R-type Fixing Clamp	1
4	4.11.086.054	Nylon Pad	2
5	3.21.116.010	Led Light	1
6	4.11.001.033	Fixing Block	2
7	4.11.018.086	Anti-vibration Rubber	2
8	4.11.085.050	Motor Cover Side Panel	1
9	3.11.151.001	Pump	1
10	3.12.161.001	Solenoid Valve	1

11	3.22.120.043	Gas Spring	2
12	4.11.054.010	Connecting Plate	2
13	4.11.041.009	Fixed Metal Part-left	1
14	2.41.085.001	Left Counterweight Assembly	1
15	4.11.017.046	Solenoid Valve Fixing Base	1
16	4.11.041.011	Fixed Metal Part-right	1
17	4.11.001.047	Cover Plate	4
18	4.11.001.048	Pin	2
19	4.11.086.016	Ear Connection Plate Left	1
20	3.22.122.003	Rubber Sleeve	2
21	3.22.201.005	Filter	1
22	2.41.085.002	Front Wheel Assembly	1
23	4.11.086.052	Ear Connection Plate Right	1
24	3.22.117.003	Foot Pedal	2
25	4.11.085.051	Support Column	2
26	4.11.018.011	Fixing Block	2
27	4.11.029.109	Anti-vibration Pad Plate	2
28	2.41.085.004	Right Counterweight Assembly	1
29	2.41.086.007	Wheel Axle Assembly	2
30	2.41.085.003	Water Tank Assembly	1
31	2.21.085.002	Frame welding	1

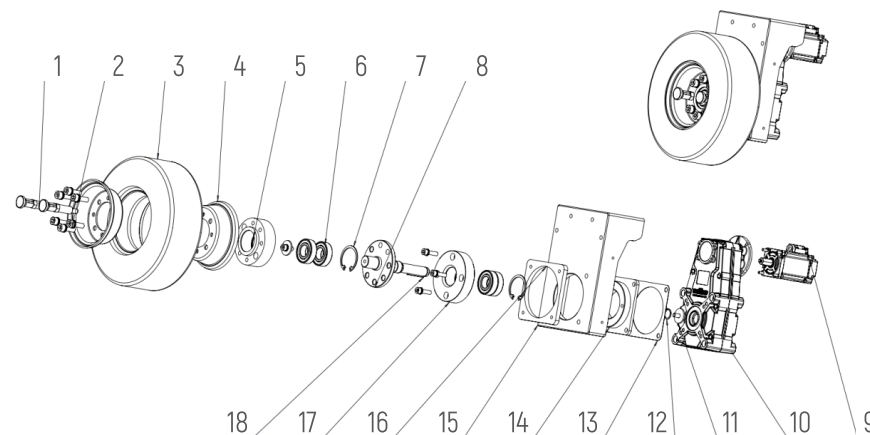
3. Front wheel assembly



2.41.085.002 Front Wheel Assembly

SN	Code	Name	QTY
1	4.11.067.039	Fixing Plate	1
2	4.11.085.042	Support Plate	1
3	3.22.121.006	B-type Pin	1
4	4.11.014.057	Fixing Pin	1
5	5.11.161.001	Bolt	1
6	3.22.111.059	Universal Wheel	1
7	4.11.067.019	Support Frame	1

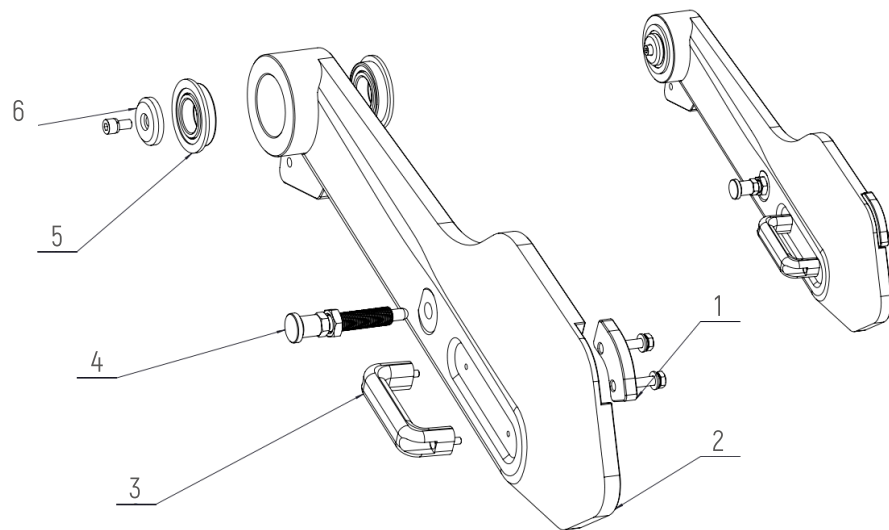
4. Wheel axle assembly



2.41.086.007 Wheel Axle Assembly

SN	Code	Name	QTY
1	3.22.121.003	Self-locking Indexing Pin	2
2	5.11.109.006	Tab Washer	6
3	3.22.111.016	Wheel	1
4	3.22.111.017	Hub	2
5	4.11.018.105	Wheel Joint Plate	1
6	3.22.112.077	Bearing	4
7	5.11.108.001	Inner Retaining Ring	2
8	4.11.018.031	Power Shaft	1
9	3.11.112.044	Dc Servo Motor	1
10	3.11.112.006	Reducer	1
11	4.11.018.030	Washer	2
12	5.11.108.006	B-type Elastic Retaining Ring	1
13	4.11.022.127	Washer	1
14	4.11.022.019	Coaxial Base	1
15	4.11.054.004	Axle Base	1
16	4.11.022.021	Reinforcing Plate	1
17	4.11.022.020	Bearing Base	1
18	3.22.118.007	Key Way	1

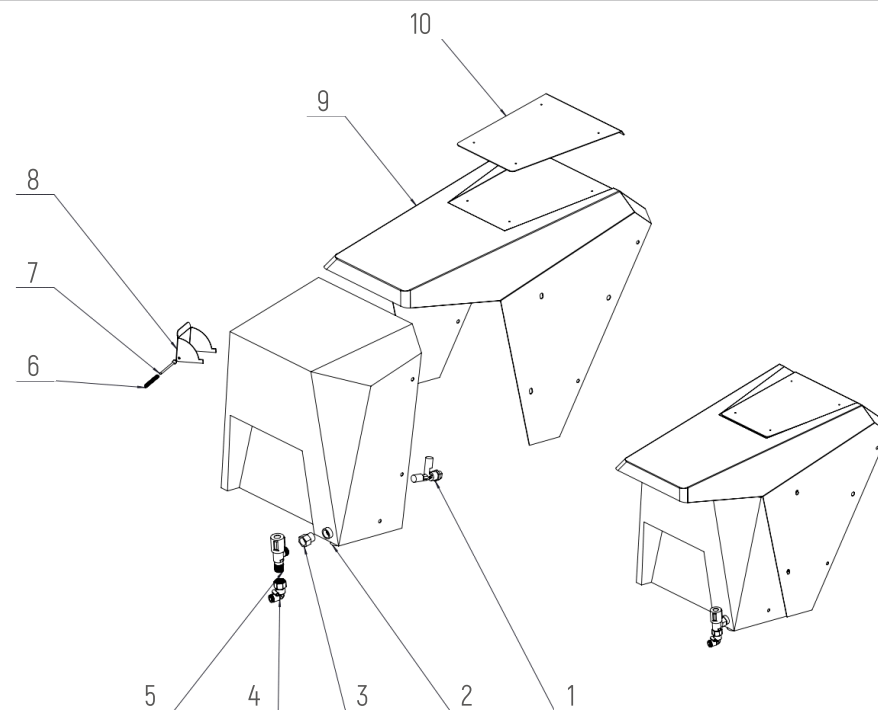
5. Right counterweight assembly



2.41.085.004 Right Counterweight Assembly

SN	Code	Name	QTY
1	4.11.085.038	Wear-resistant Block	1
2	4.11.085.037	Right Counterweight	1
3	3.22.127.002	U-shaped Handle	1
4	3.22.121.001	Stop Pin	1
5	3.22.112.096	Bearing	2
6	4.11.022.061	Shaft Cover	1

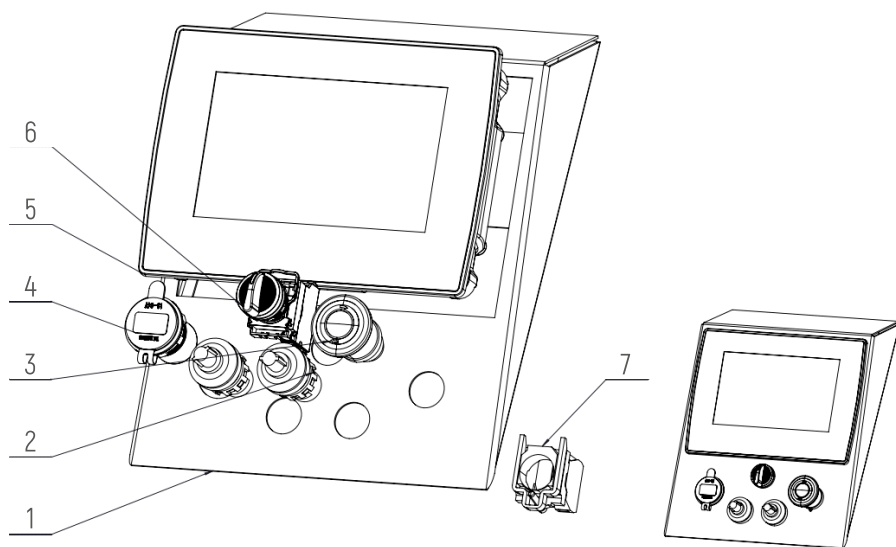
6. Water tank assembly



2.41.085.003 Water Tank Assembly

SN	Code	Name	QTY
1	5.51.105.002	Water Level Sensor	1
2	3.15.112.037	Water Tank	1
3	3.22.125.001	Copper Connector	1
4	3.22.125.002	Pneumatic Connector	1
5	3.15.113.001	Spray Switch	1
6	4.11.022.016	Spring	1
7	4.11.022.015	Pouring Cover Shaft	1
8	4.11.022.017	Pouring Cover	1
9	4.11.085.044	Water Tank Cover	1
10	4.11.085.046	Upper Panel	1

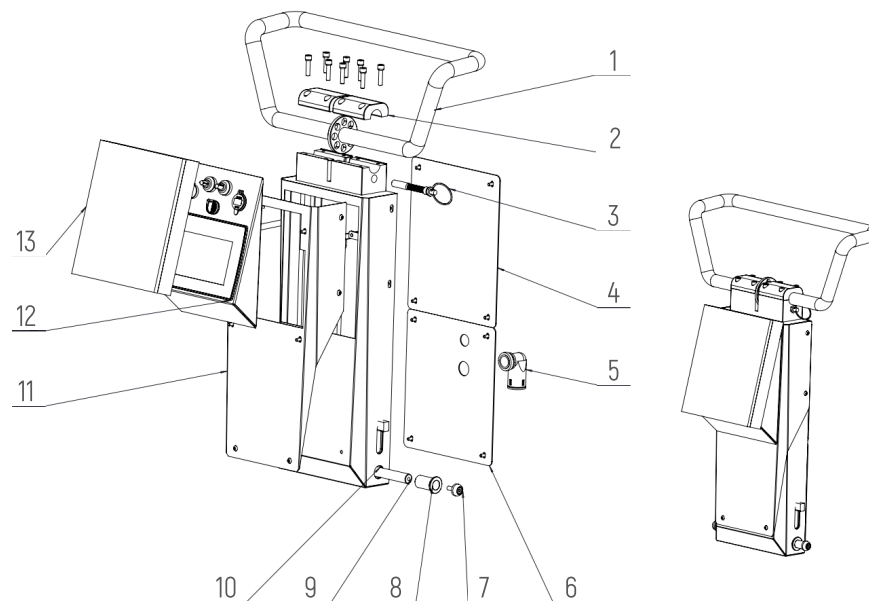
7. Swing handle panel assembly



2.42.085.004 Swing Handle Panel Assembly

SN	Code	Name	QTY
1	4.11.085.028	Control Panel	1
2	3.21.117.007	Speed Regulator	2
3	3.21.114.080	Emergency Stop Switch Head	1
4	3.21.118.002	Usb Interface	1
5	3.21.124.014	Hmi	1
6	3.21.114.020	Two-position Selector Switch	1
7	3.21.114.079	Emergency Stop Switch Base	1

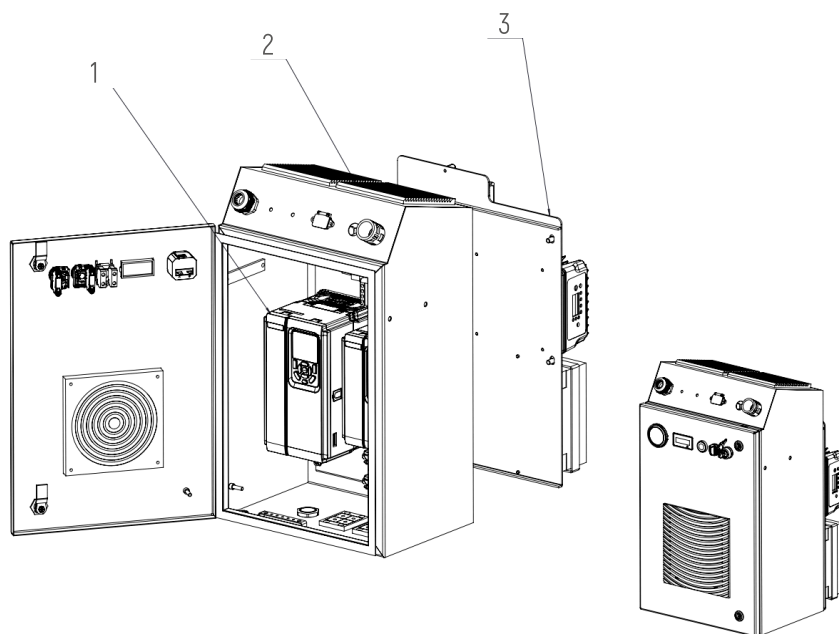
8. Swing handle assembly



2.41.086.007 Swing Handle Assembly

SN	Code	Name	QTY
1	4.11.022.043	Swing Handle	1
2	4.11.018.076	Clamp Cover	2
3	3.31.101.007	Handle Latch	1
4	4.11.085.034	Rear Cover Plate	1
5	5.11.110.006	Cable Gland	1
6	4.11.085.032	Rear Cover Plate	1
7	4.11.001.034	Swing Handle Cover	2
8	4.11.018.056	Pin Shaft Sleeve	2
9	4.11.085.035	Rotating Axis	1
10	2.21.085.003	Swing Handle Welding	1
11	4.11.085.030	Swing Handle Plate	1
12	2.42.085.004	Swing Handle Panel Assembly	1
13	4.11.085.053	Protective Cover	1

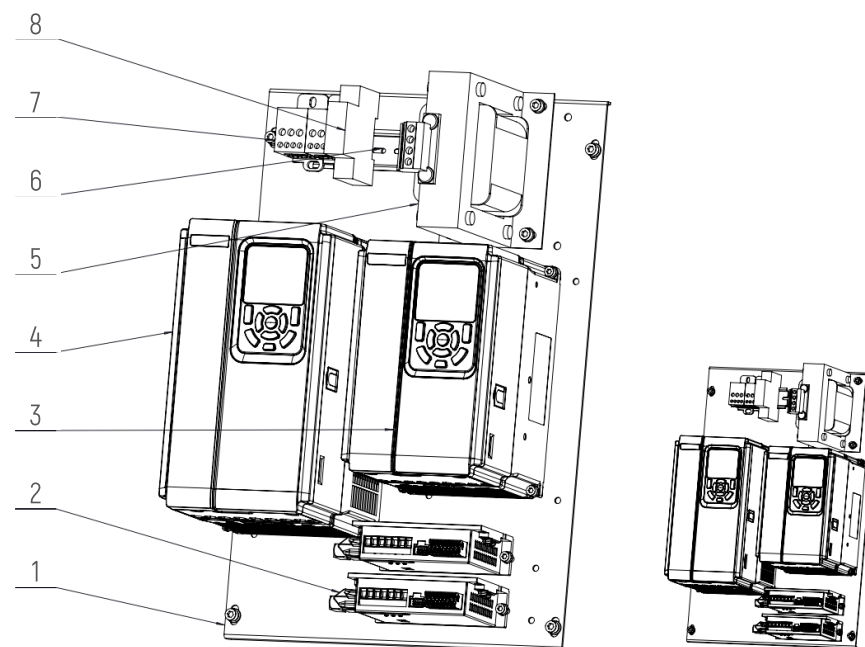
9. Electrical cabinet assembly



2.13.085.002 Electrical Cabinet Assembly

SN	Code	Name	QTY
1	2.42.085.001	Electrical Installation Assembly	1
2	2.42.085.003	Inverter Cabinet Assembly	1
3	2.42.085.002	Front Electrical Group Assembly	1

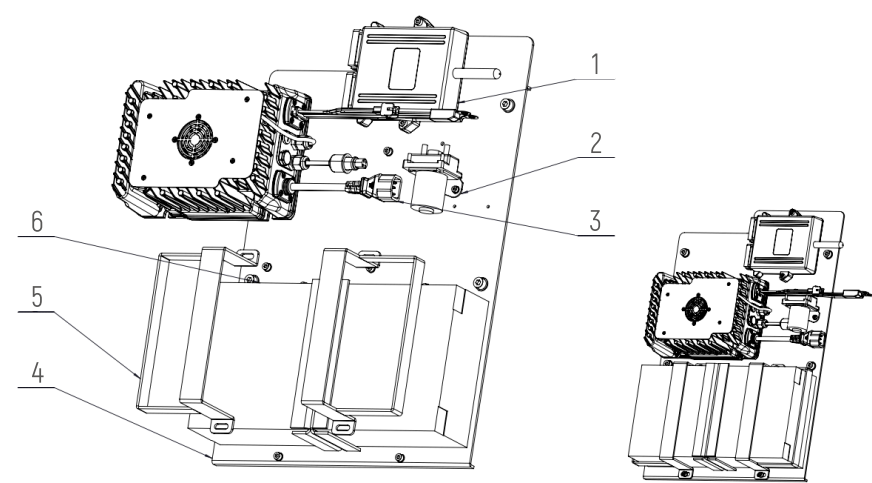
10. Electrical installation assembly



2.42.085.001 Electrical Installation Assembly

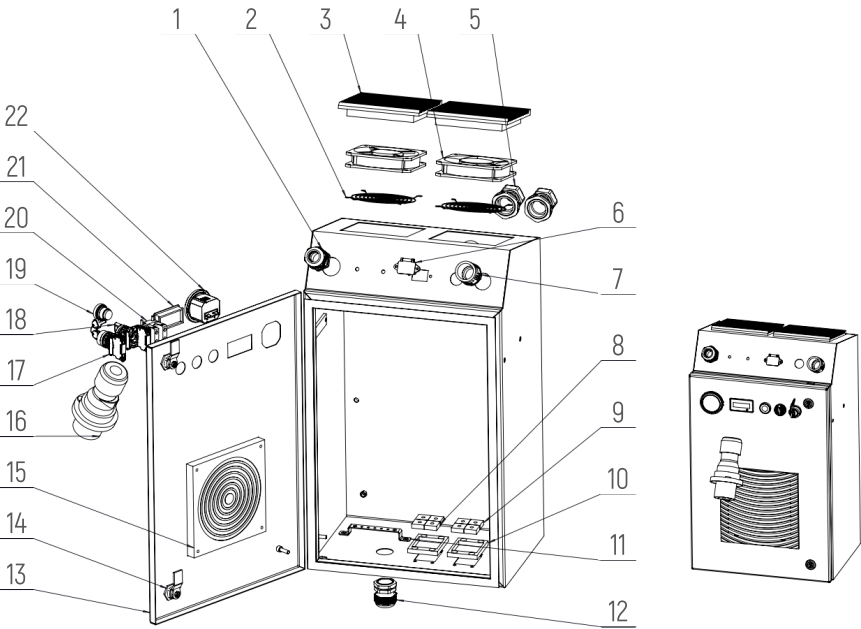
SN	Code	Name	QTY
1	4.11.085.008	Mounting Plate	1
2	3.12.113.015	DC Servo Motor Driver	2
3	3.12.111.062	Inverter	1
4	3.12.111.063	Inverter	1
5	3.12.162.003	Transformer	1
6	3.23.116.001	DIN Rail	1
7	3.22.201.015	Wire Joint Connector	2
8	3.21.114.017	Circuit Breaker	1

11. Front electrical group assembly



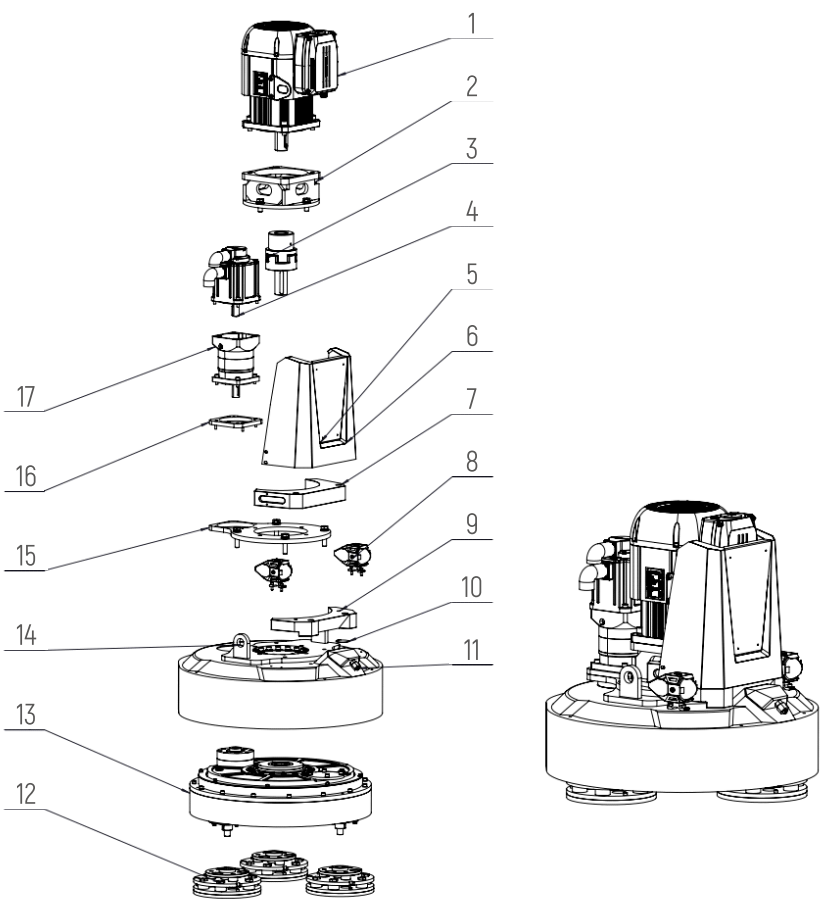
2.42.085.001 Front Electrical Group Assembly			
SN	Code	Name	QTY
1	3.12.115.018	Remote Control	1
2	3.21.122.008	DC Contactor-no	1
3	3.21.121.002	Charger	1
4	4.11.018.007	Mounting Plate	1
5	4.11.018.036	Fixing Metal Part	2
6	3.21.120.002	Lead-acid Battery	2

12. Inverter cabinet assembly



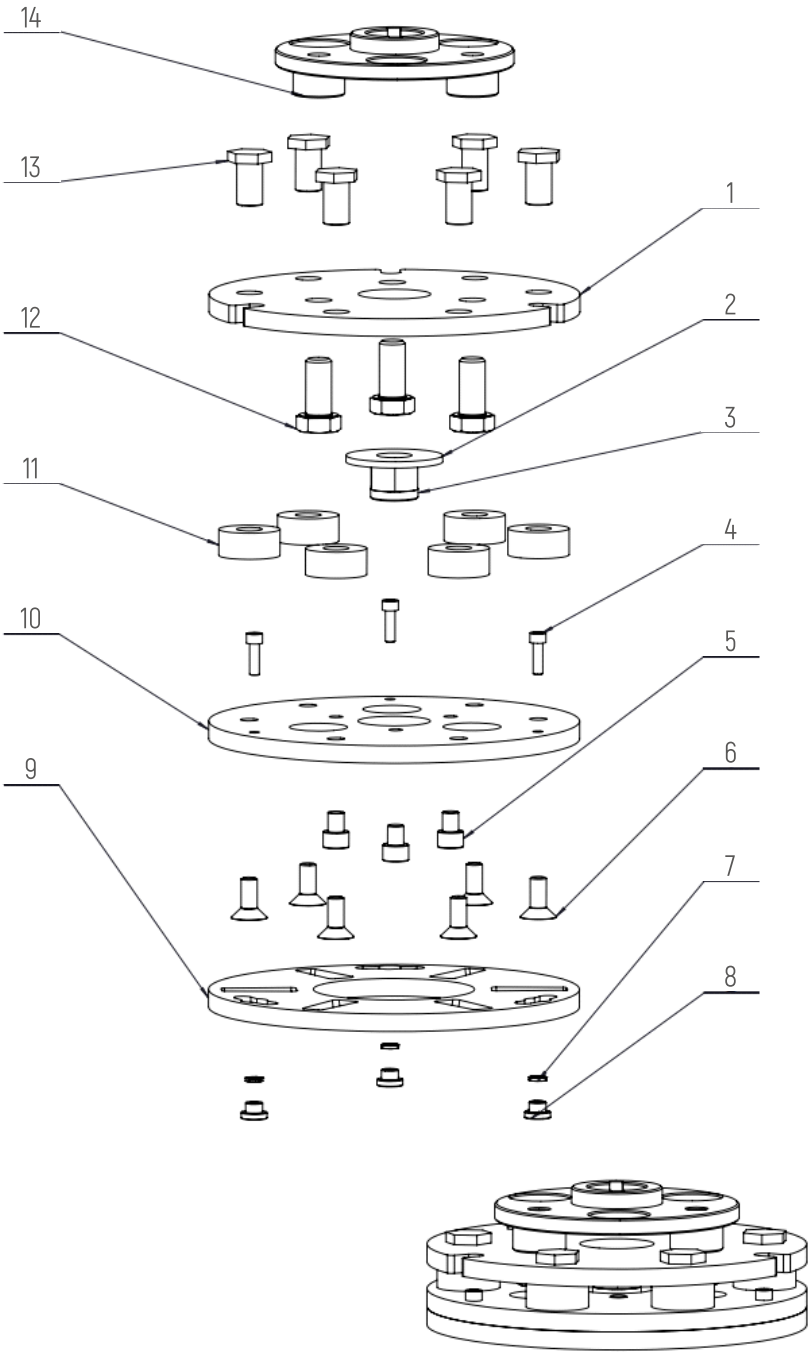
2.42.085.003 Inverter Cabinet Assembly			
SN	Code	Name	QTY
1	5.11.110.021	Cable Gland	1
2	3.21.115.004	Mesh Plate	2
3	3.21.115.002	Outlet Filter	2
4	3.21.115.008	Fan	2
5	5.11.110.012	Cable Gland	2
6	3.21.118.001	Charging Port	1
7	5.11.110.008	Cable Gland	1
8	3.21.122.035	Wire Guard-rubber 1	4
9	3.21.122.036	Wire Guard-rubber 2	4
10	3.22.201.009	Wire Guard-rubber 3	2
11	3.21.201.023	Grounding Busbar	1
12	5.11.110.002	Cable Gland	1
13	4.11.085.006	Inverter Cabinet Welding	1
14	3.22.123.001	Cabinet Lock	2
15	3.21.115.003	Outlet Filter	1
16	3.21.112.009	Plug	1
17	3.21.114.015	Key Switch	1
18	3.21.114.020	Knob Switch	1
19	3.21.114.101	Reset Switch Head	1
20	3.21.114.083	Three - Position Selector Switch Base	1
21	3.21.124.001	Battery Indicator	1
22	3.21.119.001	Hour Meter	1

13. Machine head assembly



2.12.085.001 Machine Head Assembly			
SN	Code	Name	QTY
1	3.11.112.049	11.0KW Servo Motor	1
2	4.11.086.013	Motor Connection Base	1
3	3.22.128.008	Coupling	1
4	3.11.112.048	1.8kw Servo Motor	1
5	4.11.086.011	Motor Cover Plate	1
6	4.11.085.016	Motor Cover	1
7	4.11.085.014	Counterweight 2	1
8	3.21.116.011	Led Light	2
9	4.11.085.012	Counterweight 1	1
10	3.22.163.021	Oil Cap	1
11	2.41.017.005	Spray Nozzle Assembly	1
12	2.41.054.002	Grinding Disc Assembly	3
13	3.13.112.030	Gearbox	1
14	3.13.113.122	Gearbox Cover	1
15	4.11.085.010	Motor Adapter Plate	1
16	4.11.085.002	Adapter Plate 2	1
17	3.11.112.063	Planetary Reducer	1

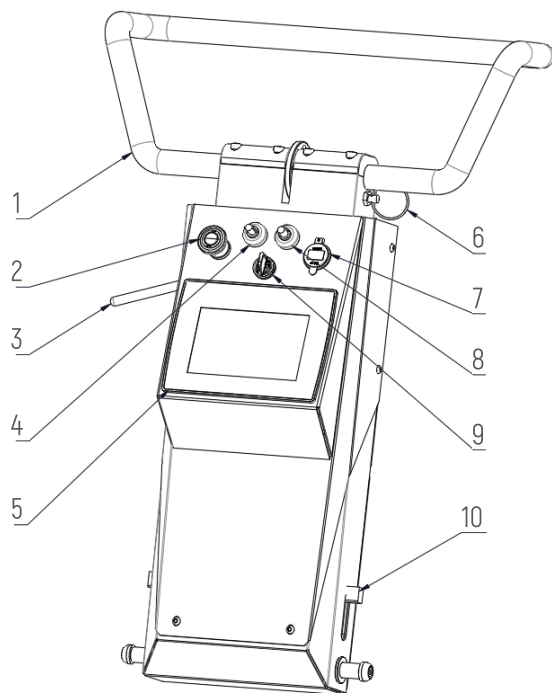
14. Grinding disc assembly



2.41.054.002 Grinding Disc Assembly			
SN	Code	Name	QTY
1	4.11.054.003	Connecting Plate	1
2	5.11.109.019	Flat Washer	1
3	5.11.106.012	Nut	1
4	5.11.101.080	Bolt	3
5	5.11.101.156	Bolt	3
6	5.11.101.043	Bolt	6
7	5.11.109.061	Tab Washer	3
8	4.11.054.013	Locating Sleeve	3
9	3.14.112.052	Round Grinding Disc	1
10	4.11.054.002	Fixed Grinding Disc	1
11	3.22.117.035	Rubber Pad	6
12	5.11.101.203	Bolt	3
13	4.11.054.014	Sleeve	6
14	3.22.116.001	Upper Flange	1

3.3 Swing handle assembly

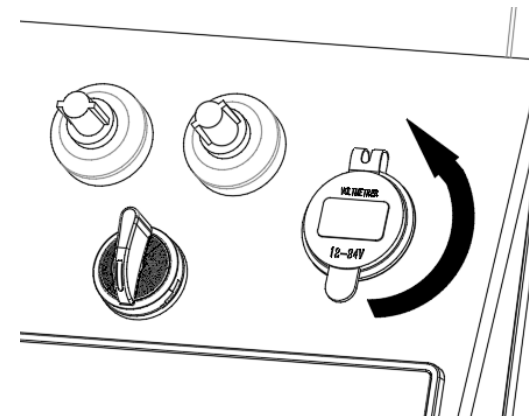
3.3.1 Overview



1. Operating handle: The position of the user's hand during operation.
2. Emergency stop switch: When the equipment is in a dangerous state or needs to stop working, press the emergency stop switch to cut off the power and stop the equipment from running, in order to protect personal and equipment safety.
3. Swing handle angle adjustment handle: Use the handle to adjust the angle of the swing handle, and there will be corresponding positions under corresponding working conditions. (For specific operations, please refer to see P35)
4. Speed regulator: A knob that controls the speed of the large plate (planetary motor).
5. HMI: Displays some parameters, such as voltage, current, motor speed, overload fault prompt, etc.
6. Swing handle latch: Pull out the latch, and the handle can be freely rotated to a suitable position to operate the device. (For specific operations, see P35)
7. USB interface: Can be used for charging, such as charging a mobile phone.
8. Speed regulator: A knob that controls the speed of the small plate (main motor).
9. Two-position selector switch: Used to control the start/stop of the machine.
10. Swing handle locking rod: Adjust the swing handle position.

3.3.2 USB interface

There is a charging (USB interface) device on the control panel. When we flip up the cover, we can see the USB interface, which is mainly for the convenience of users to charge the device.



⚠ Notice:

When operating the grinder, be sure to close the cover and do not open it to expose the USB interface to prevent dust from getting in and clogging the USB interface.

When the USB interface is not in use for charging, remember to cover it to prevent dust from falling into the USB interface.

Note: The battery voltage will be displayed on the cover.

3.3.3 HMI

(1) Menu Overview

HMI button operation.

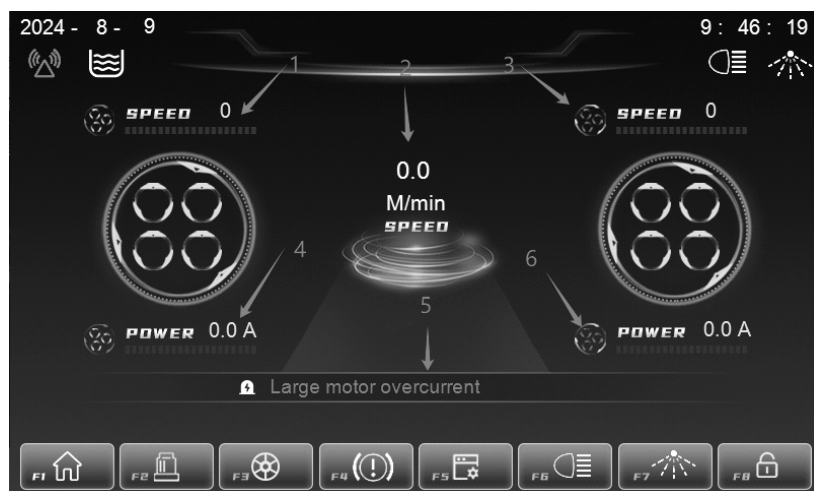
The text displayed in this manual is in English, but the language can be selected in the product. (see P33 for specific operations)

(2) HMI interface

In manual mode, all buttons can be used for operation:

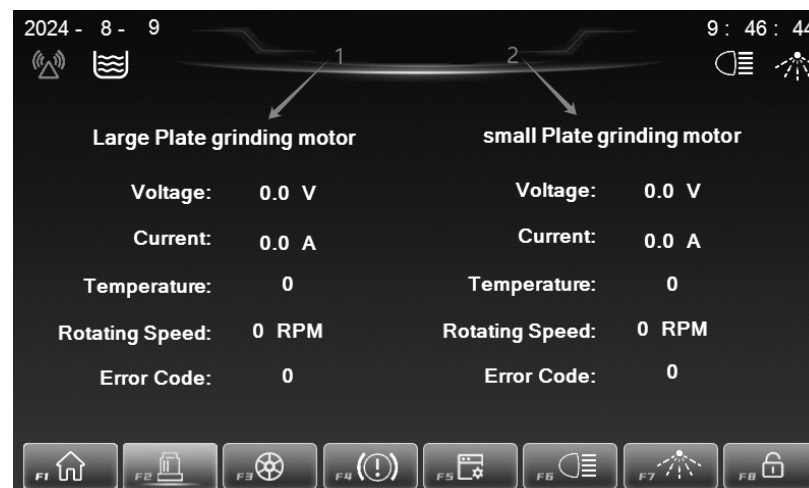
① Press the F1 and the HMI will appear (as shown below)

1. Speed of the large motor (small plate)
2. Travelling speed
3. Speed of small motor (large plate)
4. Current of large motor
5. Fault warning
6. Current of small motor



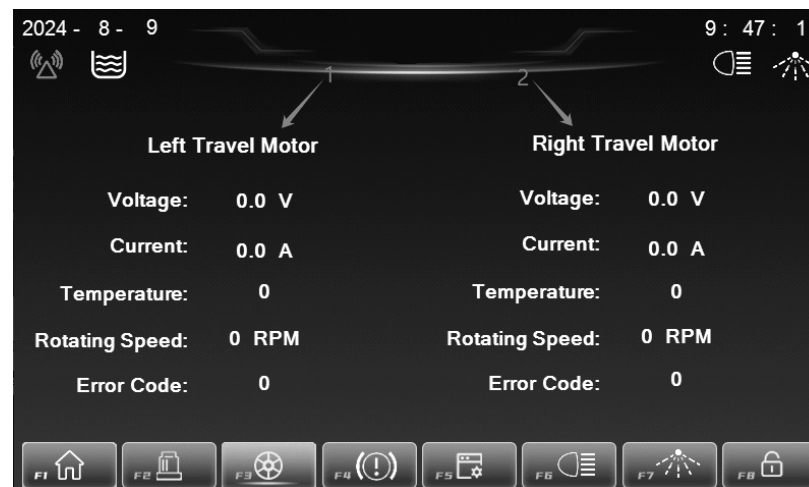
② Press the F2 and the HMI will appear (as shown below)

1. Technical parameters of large plate grinding motor (voltage, current, temperature, rotating speed, error code)
2. Technical parameters of small plate grinding motor (voltage, current, temperature, rotating speed, error code)



③ Press the F3 and the HMI will appear (as shown below)

1. Technical parameters of left travel motor (voltage, current, temperature, rotating speed, error code)
2. Technical parameters of right travel motor (voltage, current, temperature, rotating speed, error code)

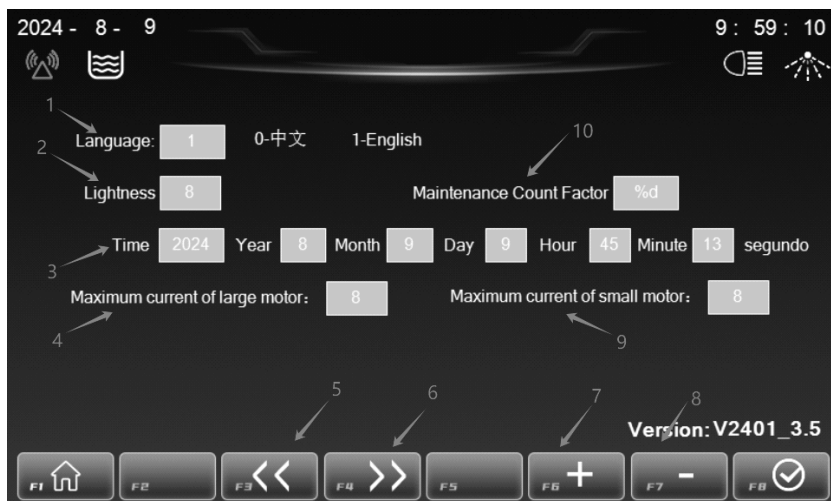


④ Press the F4 and the HMI will appear (as shown below). If a fault occurs during equipment operation, the fault description will be displayed.



⑤ Press the F5 and the HMI appears (as shown below)

1. Language (0 Chinese 1 English 2 Korean...)
2. Lightness (adjust with numbers)
3. System import time
4. Maximum current of large motor
5. Adjust the number (press once to jump to the previous digit)
6. Adjust the number (press once to jump to the next digit)
7. Adjust the number (press once the number to add)
8. Adjust the number (press once the number to minus)
9. Maximum current of small motor
10. Maintenance count factor (displayed as a percentage)



⑥ F6 is used to control LED light/spotlight.

⑦ F7 is used to control the front spray.

⑧ Press the F8 and the HMI will appear (as shown below)

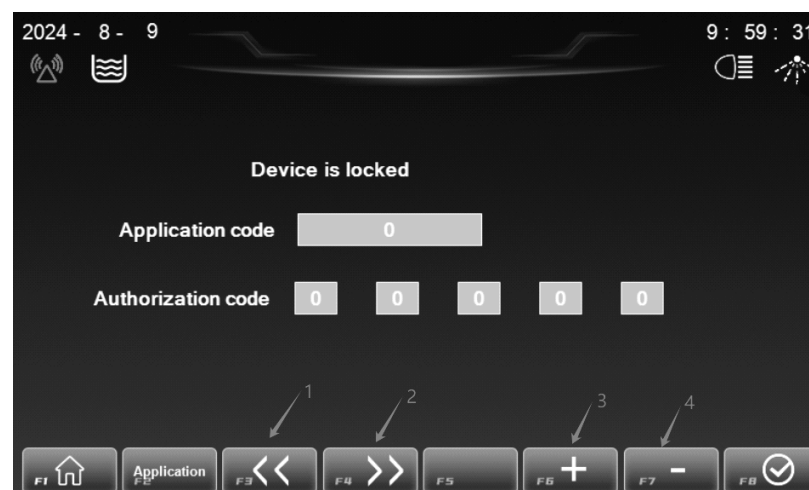
When the device is locked, press F8 to send the application code to HTG, and we will send the authorization code to the customer. After the customer enters the authorization code, the device will work normally again.

1. Adjust the number (press once to jump to the previous digit)

2. Adjust the number (press once to jump to the next digit)

3. Adjust the number (press once the number to add)

4. Adjust the number (press once the number to minus)

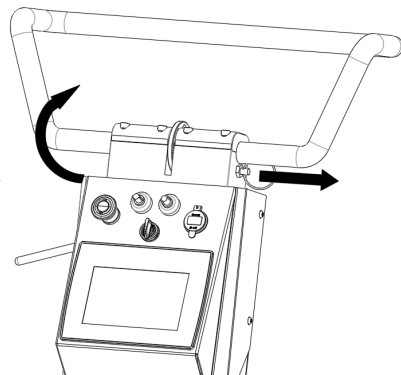


3.3.4 Handle

The adjustment pin on the handle can be adjusted to different positions by positioning the circular holes to meet the different needs of users. Hold the armrest with one hand and pull out the adjustment pin with the other hand. When it is rotated to the appropriate position, release the adjustment pin.

⚠ Notice:

1. When pulling out the handle adjustment pin, it may get stuck. In this case, you need to shake the handle while pulling out the pin.
2. When the handle adjustment pin automatically resets, the holes may not be aligned. Simply rotate it up and down.
3. When adjusting the handle position, be sure to check whether the handle adjustment pin has been automatically reset before operating the machine.

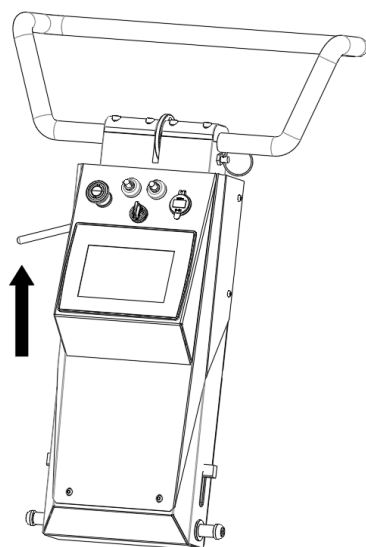


3.3.5 Swing handle angle adjustment

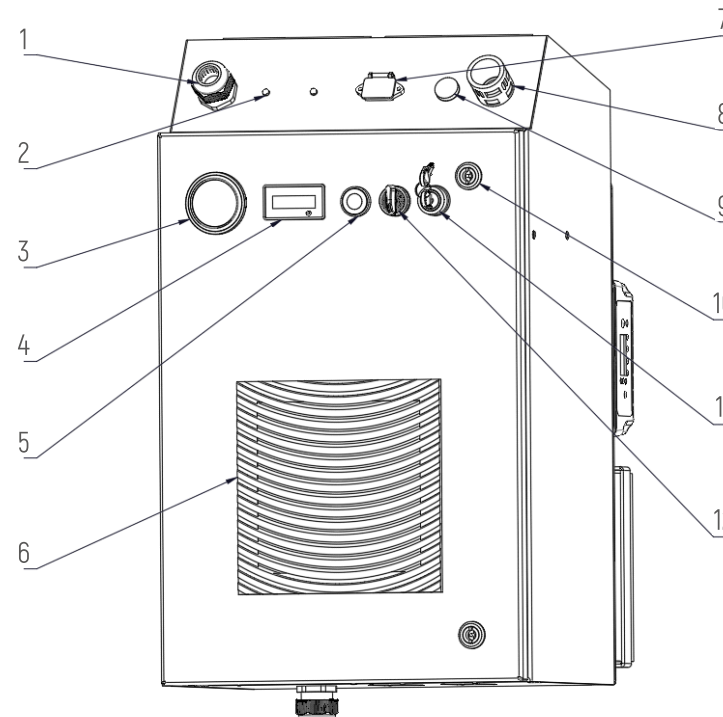
The swing handle adjustable device uses a handle to control the different positions of the swing handle to adapt to the conversion of the machine placement mode in different states (see P52). Hold the handle with one hand to support the swing handle, pull the handle upward without moving, rotate the swing handle to the required position according to the hole position on the fan plate, and then release the handle.

⚠ Notice:

1. After adjusting the position of the swing handle, you need to check whether the swing handle has been limited before operating the equipment.
2. The swing handle is heavy, so hold it with one hand to keep it steady!



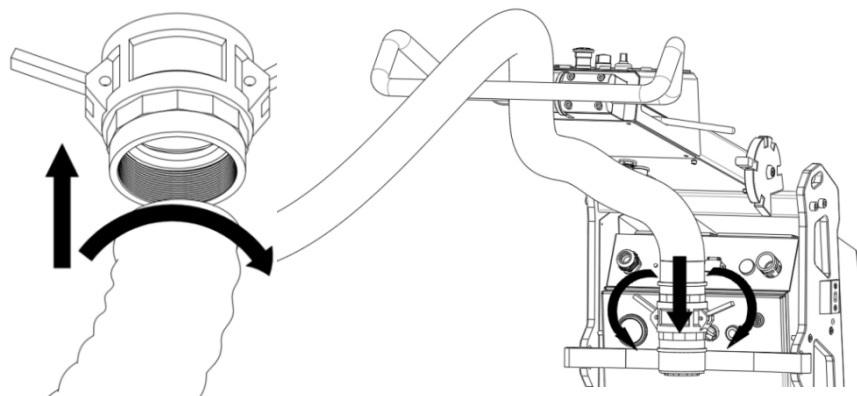
3.4 Electrical cabinet assembly



1. Cable gland: Used to connect circuits and protect cables.
2. Indicator light: Remote control status indicator light.
3. Hour meter: Displays the total running time of the machine.
4. Battery indicator: Mainly displays the amount of battery power of the machine.
5. Reset switch: Used to start the machine.
6. Filter: It plays a role in heat dissipation to prevent the internal temperature of the electrical cabinet from being too high, which may cause the assembly inside the electrical cabinet to burn out.
7. Charging port: The battery can be powered by an external power source.
8. Cable connector: An interface used to connect cables.
9. Charging indicator light: Displays the battery level when charging.
10. Cabinet lock: The electrical cabinet can be locked with a key.
11. Key switch: Used to start and disconnect the power supply.
12. Two-position selector switch : Used to switch between manual and remote control modes.

3.5 Camlock

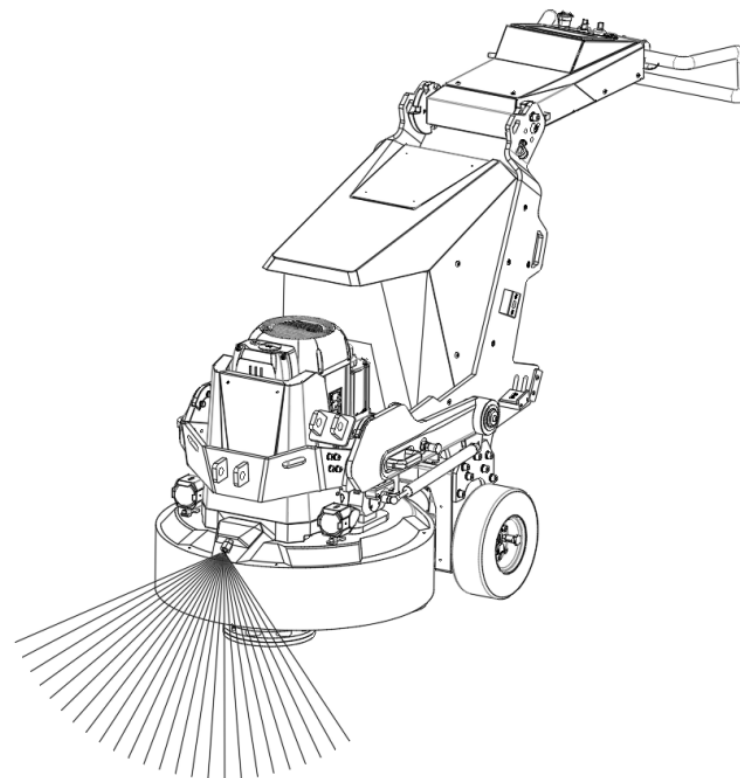
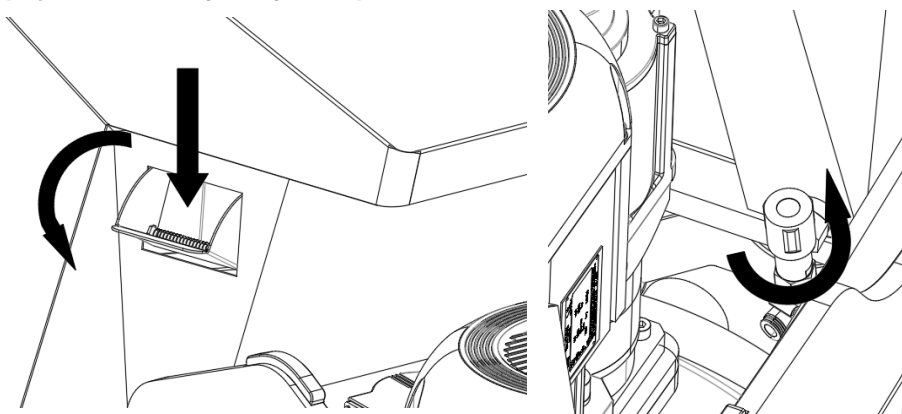
The camlock consists of a front part and a rear part (as shown below). The front part is assembled with the hose of the grinder (screw the front part into the hose connector through the thread and tighten it), and the rear part cooperates with the hose (screw the hose into the rear part and tighten it).



3.6 Water Tank

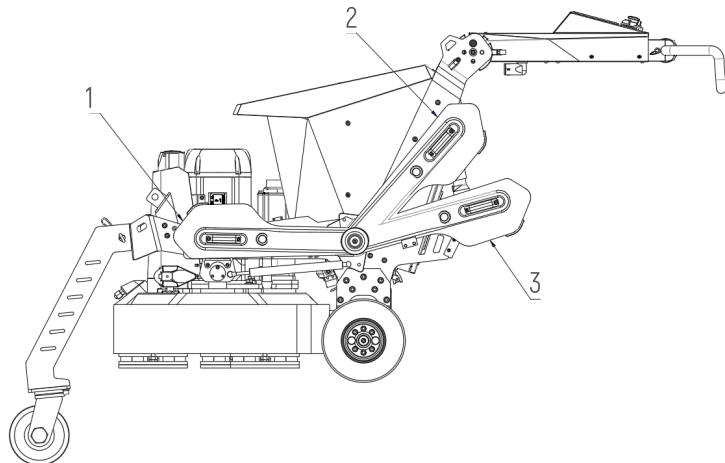
There is a water filling port on the side of the water tank, which can be opened to fill water into the water tank.

In the manual grinding state, when the machine is about to perform wet grinding, press the spray switch (F7) on the HMI, or the NO.12 button on the remote control, and water will be sprayed in front of the machine; rotate the spray switch, and the machine grinding disc will spray water, and wet grinding can be performed.



3.7 Counterweight

The counterweight has three different positions, corresponding to the transportation position, the tilt position, and the working position on the machine. The adjustment of the counterweight position mainly relies on the spring pin to cooperate with the limiting device on the frame to achieve the purpose of limiting.



① Working position ② Transportation position ③ Tilt position

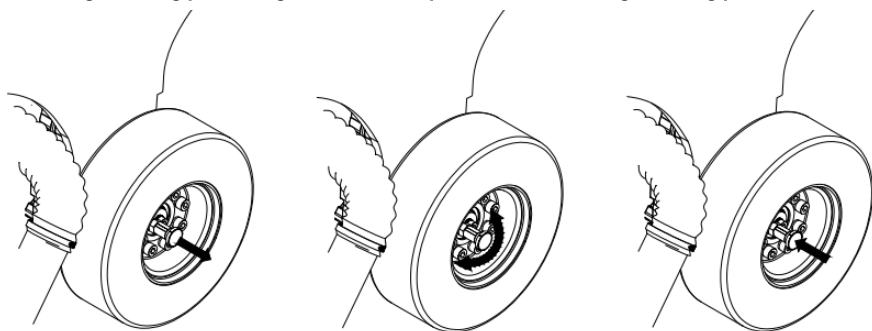


Notice:

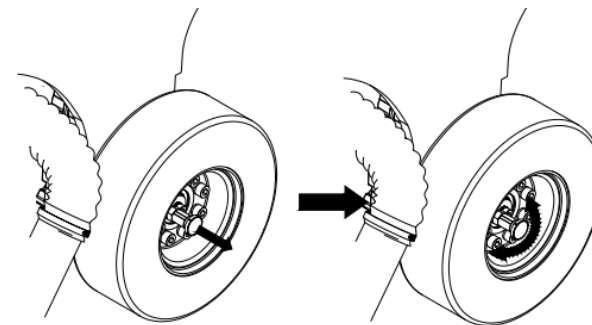
1. The counterweight is very heavy, please be sure to handle it with care, otherwise it may cause personal injury or machine damage.
2. Please hold the handle of the counterweight to adjust it. Improper movement of the counterweight may cause your hand to be pinched and cause personal injury.

3.8 Self-locking indexing pin

Self-locking indexing pin is locked: Push the self-locking indexing pin outward, then rotate the self-locking indexing pin 90 degrees, and then push the self-locking indexing pin inward.



Unlock the self-locking indexing pin: Push the self-locking indexing pin outwards, and then rotate the machine's self-locking indexing pin 90 degrees.



Notice:

1. The self-locking indexing pin may get stuck when you pull it out. Just shake the machine while pulling it out.
2. When performing grinding work, the self-locking indexing pin needs to be rotated to the corresponding position. If the self-locking indexing pin does not bounce back automatically, the self-locking indexing pin will automatically bounce back when the machine wheel is pushed again.

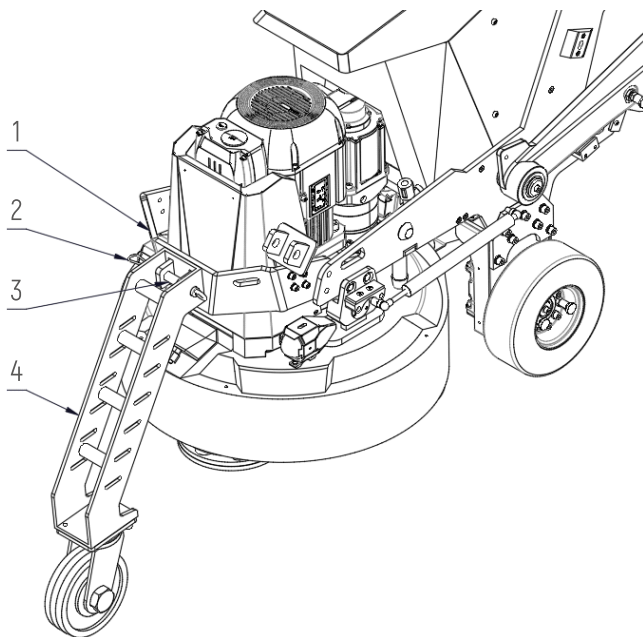
3.9 Front wheel

3.9.1 Disassembly of front wheel

Before the machine is transported, the front wheel are installed to make the turning of the grinder smoother; when the machine is transported, sometimes the machine needs to move forward and backward, so the front wheel can make the movement of the grinder more convenient and labor-saving. It needs to be disassembled or turned over for grinding.

Remove the front wheel: First press the emergency stop switch, unplug the power plug, tilt the machine up (see P53), unlock the R-type pin, take out the locating pin, and then move horizontally to take out the front wheel.

Install the front wheel: First press the emergency stop switch, unplug the power plug, align the front wheel with the hole of the front wheel support frame, then insert the locating pin for locating, insert the R-type pin, fix the locating pin, and put the machine down.



① Front wheel support frame ② R-type pin ③ Locating pin ④ Front wheel

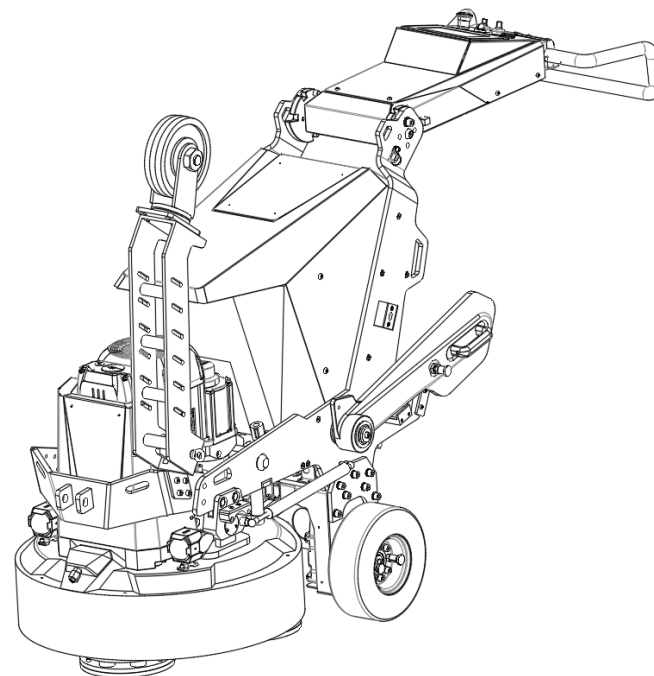


Note:

When pulling out the latch, it may get stuck. You can pull it out while shaking the front wheel.

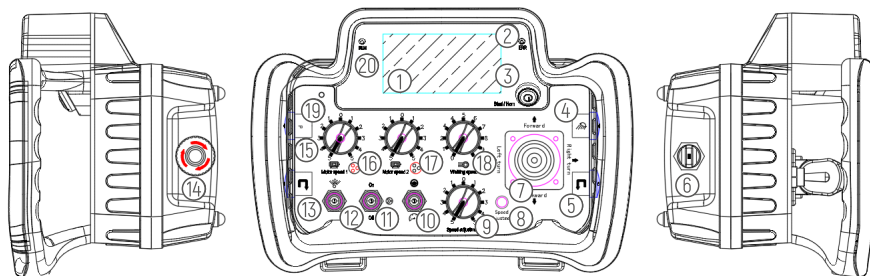
3.9.2 Flipping of front wheel

1. Unlock the R-type pin (Number ②) first and remove the locating pin (Number ③) forward.
2. Then assemble the front wheel (Number ④) in the rotation direction to the slot behind the front wheel support frame (Number ①).
3. Insert the locating pin again and insert the R-type pin to secure the locating pin. As shown below:



4. Remote control equipment

4.1 Remote control - control panel



1. HMI: Mainly displays some parameters, such as voltage, current, motor speed, overload fault prompt, etc.

2. Transmitter battery indicator: When the battery voltage is low, the indicator light (Battery level indicator $\odot$ $\rightarrow$ $\ominus$) turns green. Please replace the battery within 20 minutes.

3. Reset switch: Used to start the remote control in conjunction with the emergency stop switch.

4. Spotlight switch: Controls the switch of the spotlight at the bottom of the electrical cabinet.

5. U-turn left switch: Press to make the machine turn left.

6. Power switch: The switch that controls the power of the remote control.

7. Directional control joystick: Controls the machine to move forward, backward, turn left, and turn right.

(1) Turn the directional joystick to the center. The machine will move at the speed set on the travelling speed controller.

(2) Push the directional joystick backward slightly. The machine will move backwards at the speed set on the travelling speed controller.

(3) Use force to push it to the left until the end, and the machine will coordinate the left and right wheels to turn left according to the minimum turning radius.

(4) Use force to push it to the right until the end, and the machine will coordinate the left and right wheels to turn right according to the minimum turning radius.

(5) Slightly push the joystick to the left, and the machine will turn the left wheel and turn left.

(6) Slightly push the joystick to the right, and the machine will turn the right wheel and turn right.

(7) After the machine completes the turn, the joystick is reset and the machine moves according to the forward or backward command set in the previous step.

(8) Machine travelling speed: 0-30m/min.

8. Speed adjustment status indicator light: When the speed regulator is started normally, the indicator light lights up green.

9. Left and right wheel speed regulator: Ensures that the machine performs straight-line grinding. When the machine deviates slightly to the right (left) from the straight line, turning the switch to the left will reduce the speed of the left wheel, causing the machine to deviate to the left (right) and maintain a straight-line walking route.

10. Normal remote control/full-automatic grinding mode switch: Push it down and the machine is in normal remote control mode, push it up and the machine switches to full-automatic grinding mode.

11. Reset switch: Used to control the start/stop of the machine

12. Spray switch: Controls the opening and closing of the spray nozzle in front of the grinding disc cover.

13. U-turn right switch: Press to make the machine turn right.

14. Emergency stop switch (located at the bottom of the machine): Turns on or off the control of radio use to stop the machine from working.

15. Brake switch: Drive wheel brakes instantly.

16. Small plate (large motor) speed adjustment: Control the speed of the grinding disc (small plate) driving motor.

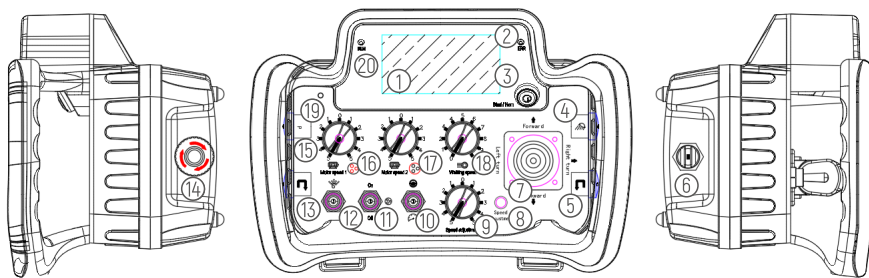
17. Large plate (small motor) speed adjustment: Control the speed of the gearbox (large plate) driving motor.

18. Drive wheel speed regulator: Controls the travelling speed of the machine.

19. External antenna: Used to receive control signals.

20. Operation indicator light.

4.2 U-turn

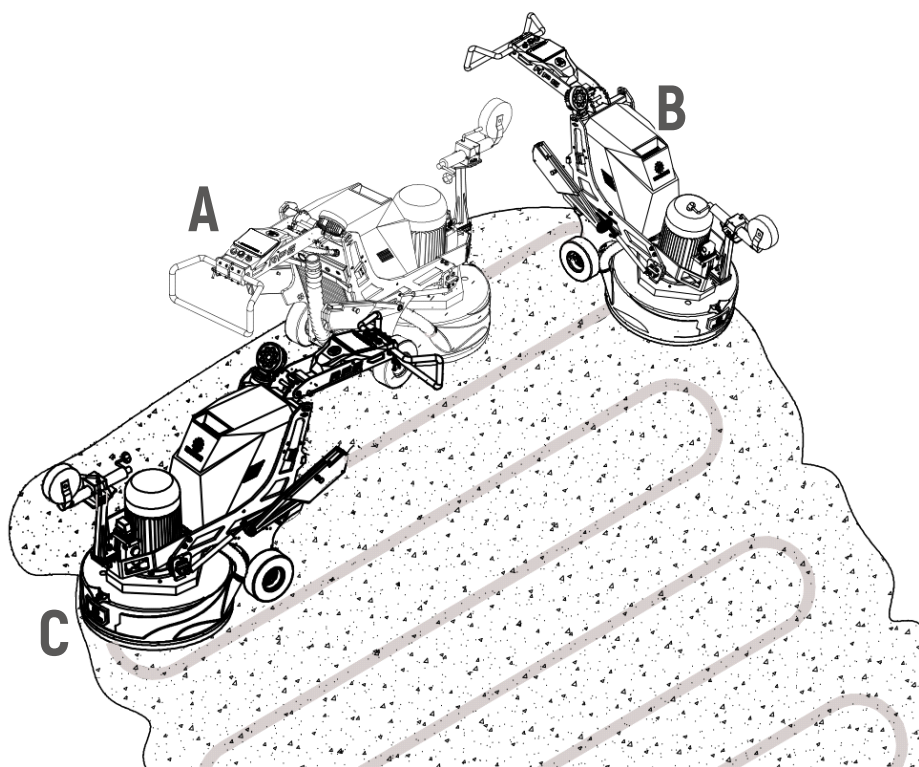


When the machine is grinding, if machine A needs to turn during straight grinding, you can press NO.13 to turn right (or press NO.5 to turn left according to your needs) to turn into machine B and grind while turning, and finally grind in straight line in machine C.



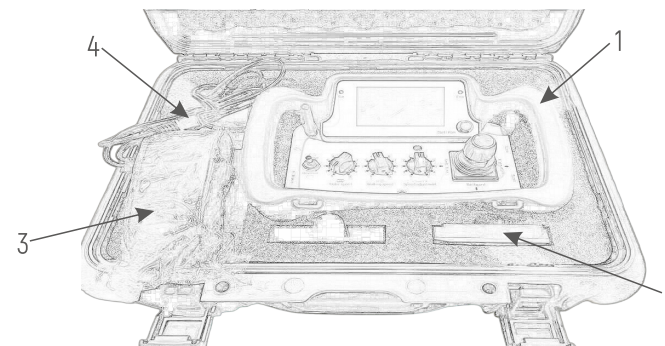
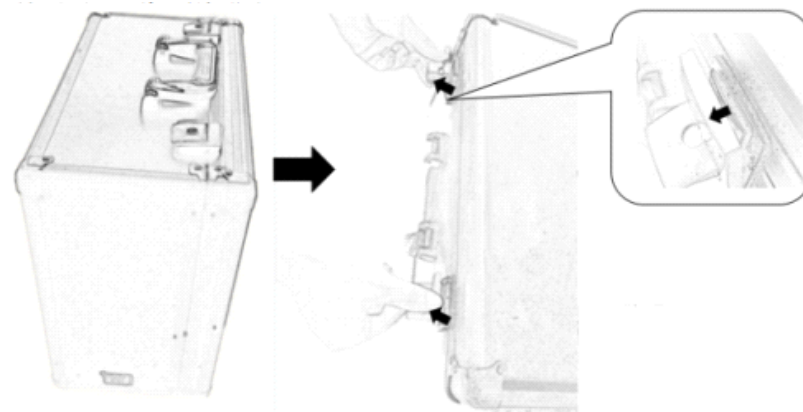
Note:

The actual turning point is between the two rear wheels, so when turning, a 40cm space must be reserved at the front. It is not recommended for novices to use one click turning when close to a wall.



4.2.1 Overview

The remote control tool box contains:



1. Remote control 2. Battery 3. Strap 4. Charger

4.2.2 Use of remote control

Installation of remote control battery: Please check the battery power before installation to avoid malfunction due to insufficient battery voltage; pay attention to the direction of the battery during installation and ensure that the battery is installed securely; remove the battery when the remote control is not used for a long time.

Location of remote control: The remote control should be placed in a safe and conspicuous place to avoid it from falling and being damaged.

To turn on the remote control: Put a fully charged battery pack into the battery box, release the emergency stop switch on the remote control, and long press the "start" switch until the green light is on and flashes once per second, which means it is turned on normally.

To turn off the remote control: Press the emergency stop switch on the remote control, the battery indicator light goes out and the remote control turns off.

4.2.3 Use of charger

1. Input the correct voltage according to the mark on the charger.

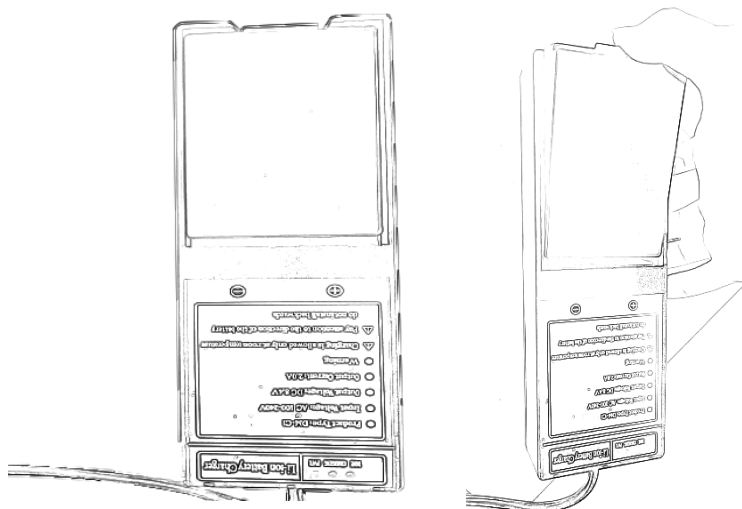
2. Put the rechargeable battery into the charger:

The charger indicator light changes from solid green to solid red, indicating normal charging.

The charger indicator light changes from solid green to flashing red, indicating that the battery is over-discharged and the charger is in trickle-charge mode. After a short period of trickle charging, the indicator light changes to solid red and enters normal charging mode.

If the rechargeable battery malfunctions, it needs to be replaced.

3. After charging is complete, the indicator light changes from solid red to solid green.



1. Input the correct voltage according to the mark on the charger.

2. Put the rechargeable battery into the charger:

The charger indicator light changes from solid green to solid red, indicating normal charging.

The charger indicator light changes from solid green to flashing red, indicating that the battery is over-discharged and the charger is in trickle-charge mode. After a short period of trickle charging, the indicator light changes to solid red and enters normal charging mode.

If the rechargeable battery malfunctions, it needs to be replaced.

3. After charging is complete, the indicator light changes from solid red to solid green.



Notice:

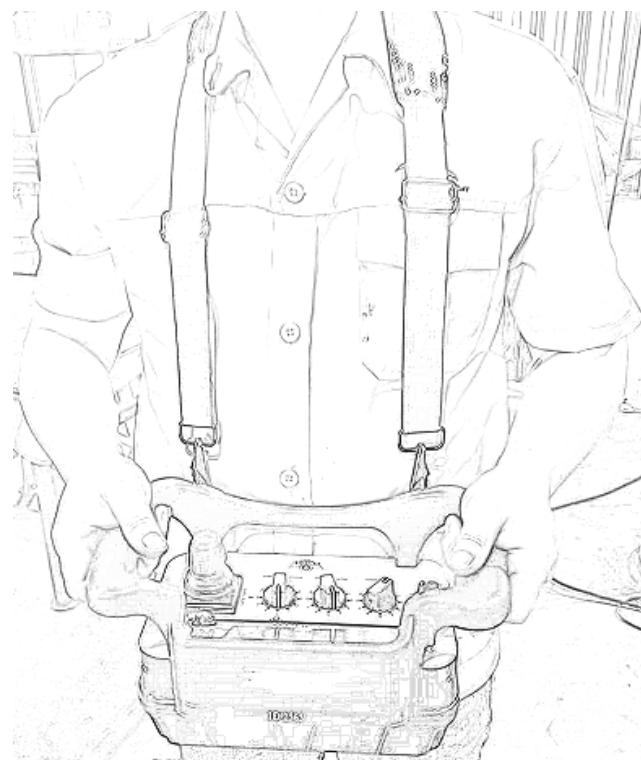
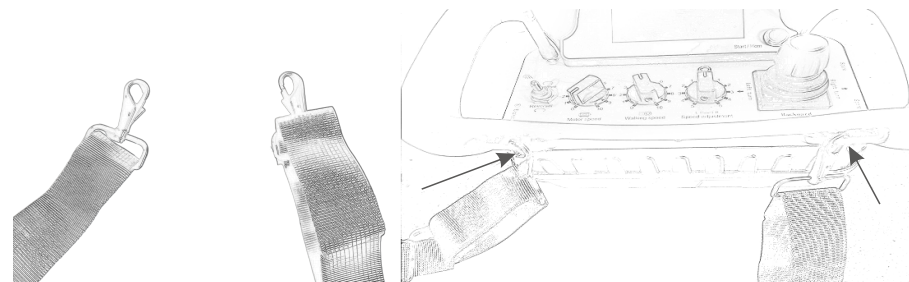
Be sure to confirm the charger voltage.

Make sure the rechargeable battery is fully inserted into the charger.

If charging is not completed after more than 4 hours, please check whether the charger or battery is in good condition.

4.2.4 Wearing the remote control

Take out the strap of the remote control, connect it to the bottom of the remote control (as shown in the picture), hang the strap around your neck, and adjust the length of the strap.

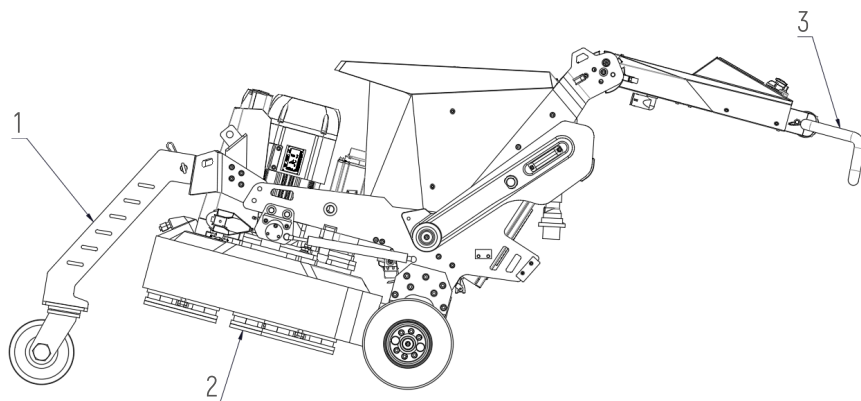


5. Transportation

There are two ways to transport this machine: manual and automatic. During transportation, it can be operated without plugging in, relying on the machine's own battery.

5.1 Manual

1. Tilt the machine, install the front wheel in front of the front wheel support frame, and then slowly lower the machine.
2. Unlock the self-locking indexing pin: Push the self-locking indexing pin outward, and then rotate the self-locking indexing pin 90 degrees.
3. Use the handle to push the machine.



① Front wheel ② Grinding disc ③ Handle

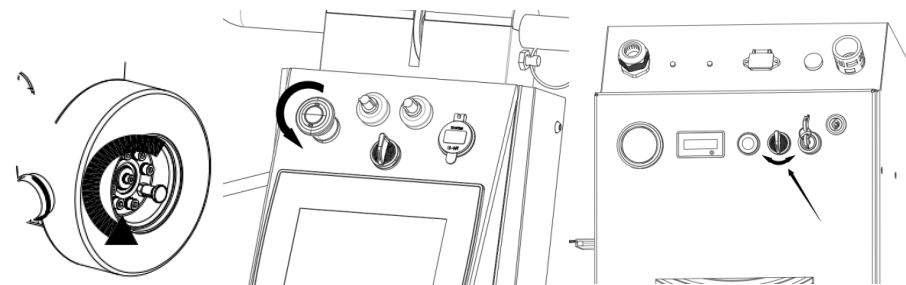


Notice:

1. The self-locking indexing pin may get stuck when you pull it out. Just shake the machine while pulling it out.
2. Pay attention to your own safety when tilting the machine and always do it within your ability.
3. Before transportation, be sure to take out the abrasive to prevent it from falling and being lost, causing unnecessary losses.
4. When using the hand-push method, the self-locking indexing pin must be in the unlocked state.
5. When the self-locking indexing pin is in locked state, pushing it by hand will cause damage to the drive motor!

5.2 Remote control

1. Tilt the machine, install the front wheel in front of the front wheel support frame, and then slowly lower the machine.
2. Lock the self-locking indexing pin: Rotate the self-locking indexing pin by hand until it cannot rotate.
3. Turn on the emergency stop switch on the swing handle control panel.
4. Adjust the two-position selector switch on the electrical cabinet to the remote control mode.
5. Turn the remote control/manual mode switch on the machine HMI to remote control mode.
6. Use the remote control to control the travelling speed and direction of the machine.



Notice:

1. The emergency stop switch is turned and pressed, and cannot be pulled out. Otherwise, HTG will not compensate for any losses caused.
2. Before transportation, be sure to take out the abrasive to prevent it from falling and being lost, causing unnecessary losses.
3. During operation, you must pay attention to the power of the remote control and the battery. When using your own battery, the travelling speed must not exceed 4.
4. During the operation, just flick the direction control switch on the remote control.
5. Be extremely careful when operating floor polishing or transporting upwards or downwards on a slope (maximum slope 17°).
6. If it is a steep slope, be sure to use a winch. Do not stand behind the machine.
7. When the remote control device indicates that the battery power is low (when the red light on the electrical cabinet is on), avoid moving the machine up a slope.
8. When moving down a slope, drive the machine slowly in the reverse direction.
9. When moving up a slope, drive the machine slowly in the forward direction.

5.3 Transportation and storage

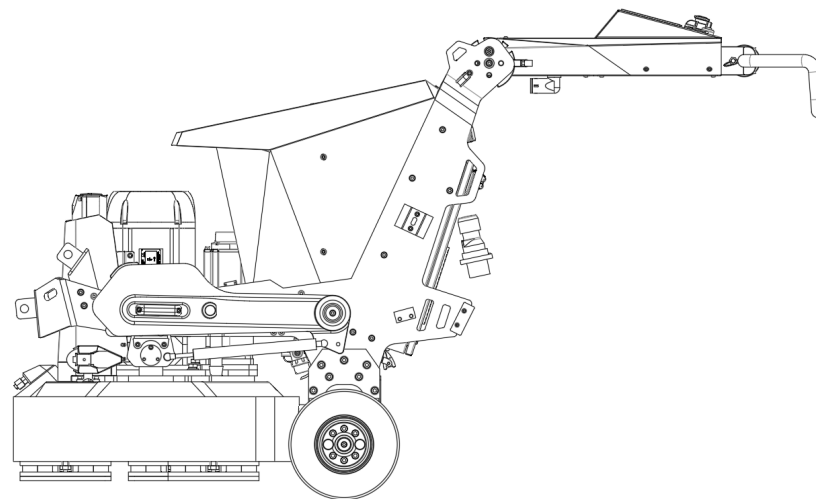
! Please be sure to read the following content carefully, otherwise it may cause unnecessary harm.

- Use extreme caution when moving the machine in manual control mode or on an incline. Even a small incline can create enough force that the hands cannot be used to brake the machine.
- The machine should not be lifted by its handle, motor, frame or other parts. The machine is best transported after being securely secured to a pallet/skid.
- Never attempt to lift the machine if mechanical means such as a crane or forklift are not possible.
- Do not use a forklift truck under the planetary grinding head unless the machine is resting on a pallet or stand. Failure to do so may cause irreparable damage to the grinding disc and other internal assembly of the machine.
- Please secure the machine during transportation to avoid damage and accidents during transportation.
- Whenever possible, the machine should be covered during transport to reduce exposure, especially in rain or snow.
- During transport, the grinding unit should rest on the ground with the tool plate always installed to protect the locking mechanism.
- Store this unit in a locked area to keep it out of reach of children or unauthorized persons.

5.4 Machine position description

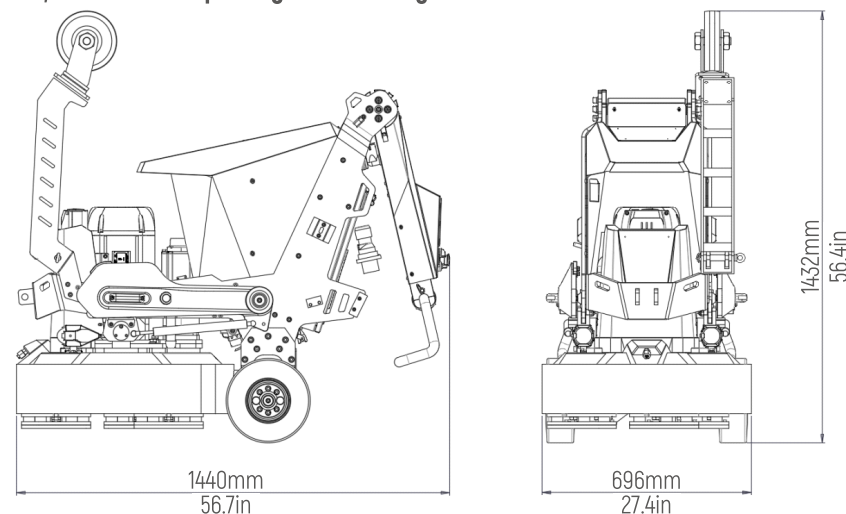
5.4.1 Machine working position

When the grinder is working, adjust the counterweight to the working position and pull out the self-locking indexing pin on the driving wheel. Adjust the swing handle, handle, etc. to the working position. Turn up or remove the front wheel.



5.4.2 Machine packaging position

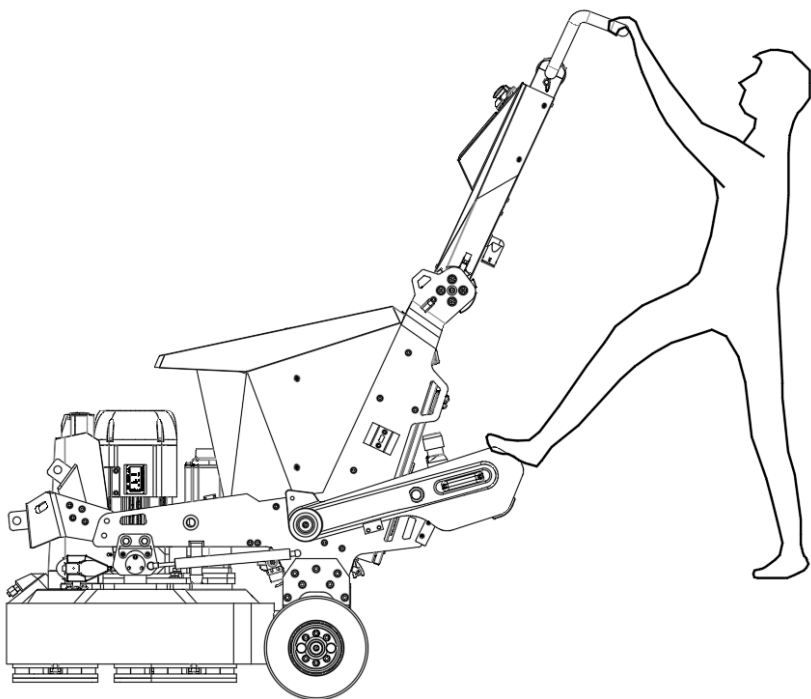
When packaging, you can adjust the position of the swing handle, front wheel, and handle to reach the packaging position. The minimum packaging size is as follows, and it can be packaged according to its size.



5.4.3 Machine tilt position

Adjust the position of the counterweight so that it is at the tilt position, and adjust the handle and swing handle to the tilt position of the machine. (The best recommended tilt position)

Holding the handles tightly with both hands, place one foot on the counterweight and press the machine down with force.



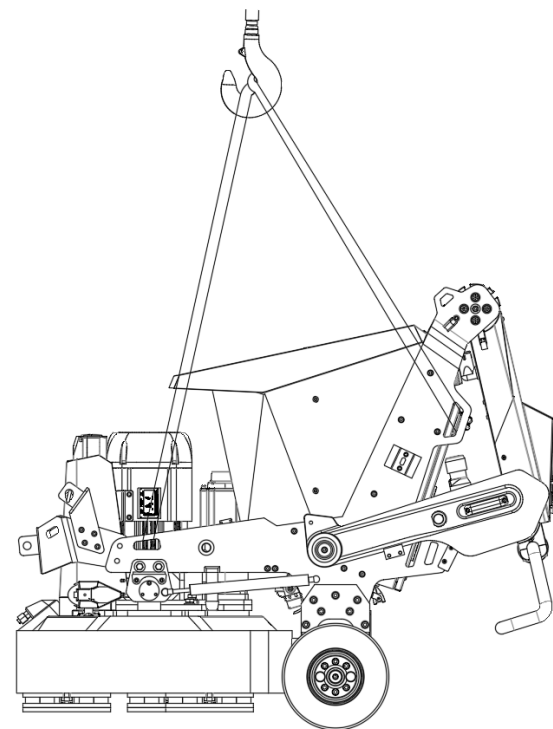
To put the machine down, you need to hold the handle tightly with both hands, put your feet on the counterweight, balance the machine with your own gravity, and slowly put it down to protect the grinding head. When putting the machine down, you must pay attention to your own strength, do it within your ability, and operate carefully to ensure the safety of the machine and yourself. HTG does not assume any responsibility for machine losses and personal injuries caused by improper operation.

Be careful:

After tilting, remember to stand next to the grinding head and press it lightly to see if the machine is stable and whether there is a threat of tipping over in front to ensure your own personal safety.

5.4.4 Lifting Machine

When lifting the machine, fasten the lifting belt to the two lifting holes on the frame next to the motor and the two lifting holes on the frame near the swing handle to lift the machine. (Note: Two ropes that can withstand 500 kg are required to tie the machine)



Notice:

1. When lifting the machine, there is a possibility of personal injury or damage to the machine or surrounding objects. Determine the danger zone and then check to ensure that no one is in the danger zone during lifting.
2. Check whether the rope is fixed firmly to the lifting holes.
3. The two ropes need to be connected diagonally to the lifting holes.

5.4.5 Notes

Please be sure to read the following content carefully, otherwise it may cause unnecessary harm.

1. If the operation is not careful, the grinder may overturn, causing machine damage and personal injury.
2. When you pull out the handle adjustment pin, it may get stuck. In this case, you need to shake the handle while pulling out the pin.
3. When adjusting the handle position, be sure to check whether the handle adjustment pin has been automatically reset before operating the machine.
4. After adjusting the position of the swing handle, you need to check whether the swing handle has been limited before operating the machine.
5. When the grinder is adjusted to the position for transportation or packaging, there is a risk of squeezing injury, so please be careful.
6. When tilting or lowering the machine, you must pay special attention to your own safety to avoid injury or damage to the machine.

6. Machine Operation

6.1 Overview

The following sections mainly describe the grinder in different positions when switching the mode to manual operation, the main operations of the grinder and how to install the abrasive.



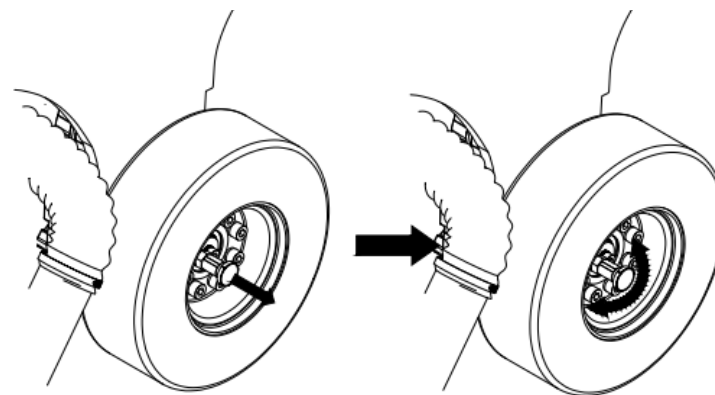
Note:

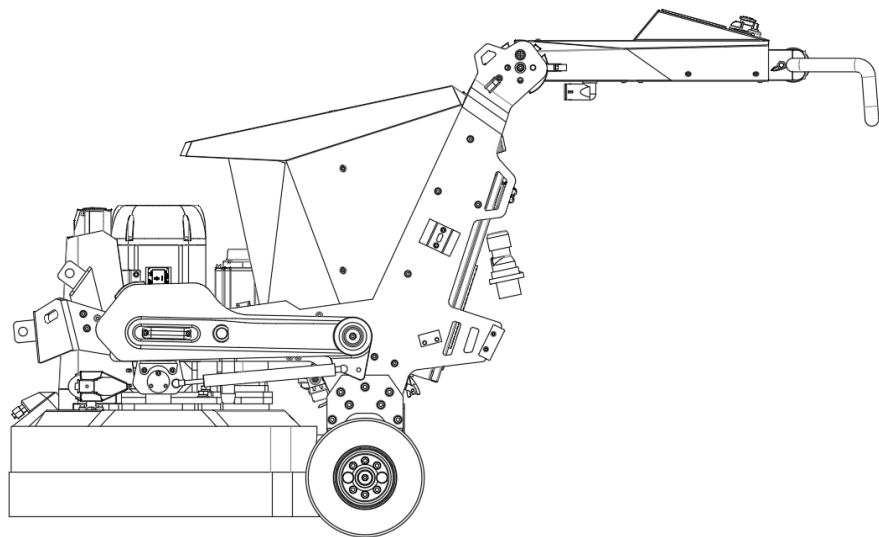
1. The grinder may only be used or repaired by personnel who have received the necessary theoretical and practical training and have carefully read the user manual.
2. Protective equipment must be used when operating the grinder, such as protective gloves, protective masks, work clothes, safety helmets, insulating shoes, etc.

6.2 Starting and stopping the grinder

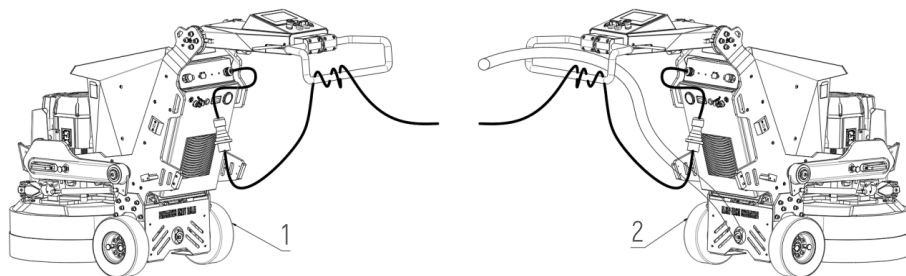
6.2.1 Manual mode operation

(1) Unlock the self-locking indexing pin (For detailed introduction, please refer to see P39), adjust the counterweight (For detailed operations, please refer to see P39), the swing handle (For detailed operations, please refer to see P35), and the handle (For detailed operations, please refer to see P35) to the corresponding working position, turn up the front wheel device, and fix it with the latch and R-type pin, or remove it and put on the dust skirt (after adjustment, as shown in the figure below).



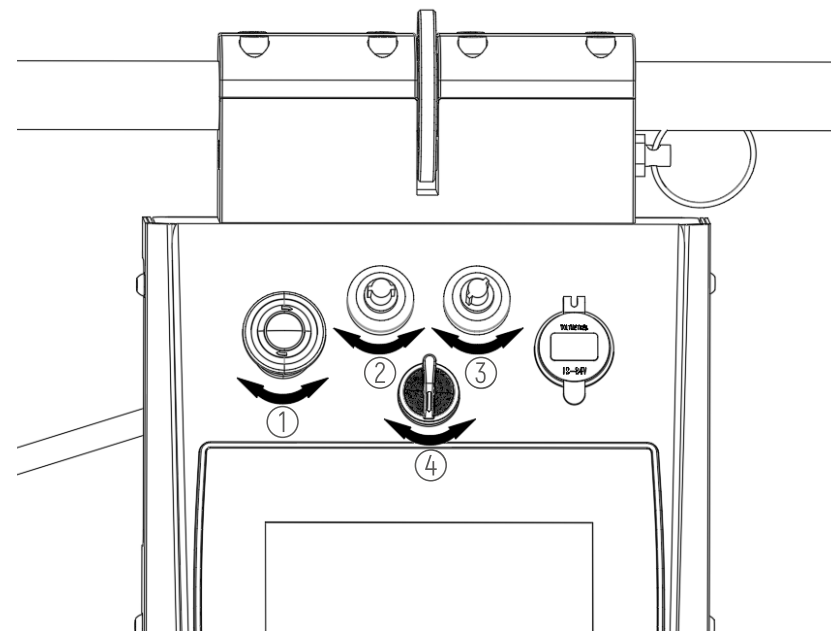


(2) Plug in the power cord (before doing this, make sure the emergency stop switch is pressed and all switches have been reset); if it is dry grinding, connect the vacuum cleaner (if the vacuum cleaner shipped by HTG is equipped with a camlock, it can be quickly connected to the vacuum cleaner. For detailed operations, see P37)); if it is wet grinding, fill the water tank with water. (For detailed operations, see P37)

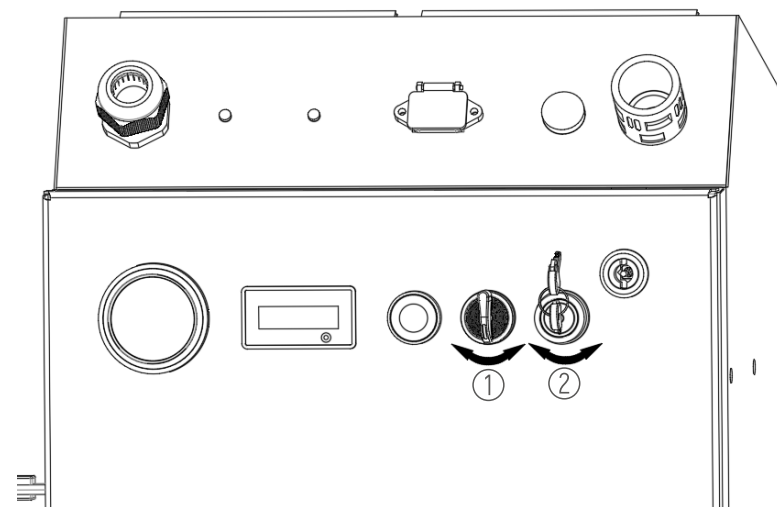


1. Wet grinding 2. Dry grinding

(3) Turn on the emergency stop switch, wait for the HMI on the swing handle to display the interface, turn the key switch on the electrical cabinet, press the reset switch, turn the two-position selector switch to switch it to manual mode, turn the large motor speed regulator, turn the small motor speed regulator to control the motor speed, turn on the reset switch on the swing handle, and then you can start the machine and start grinding.

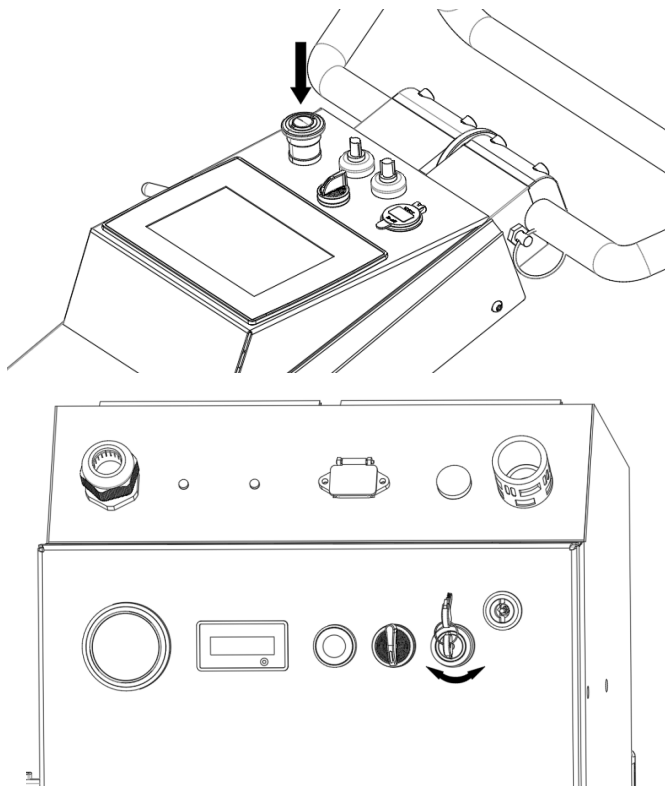


① Emergency stop switch ② Knob for controlling the speed of the small motor
③ Knob for controlling the speed of the large motor ④ Reset switch



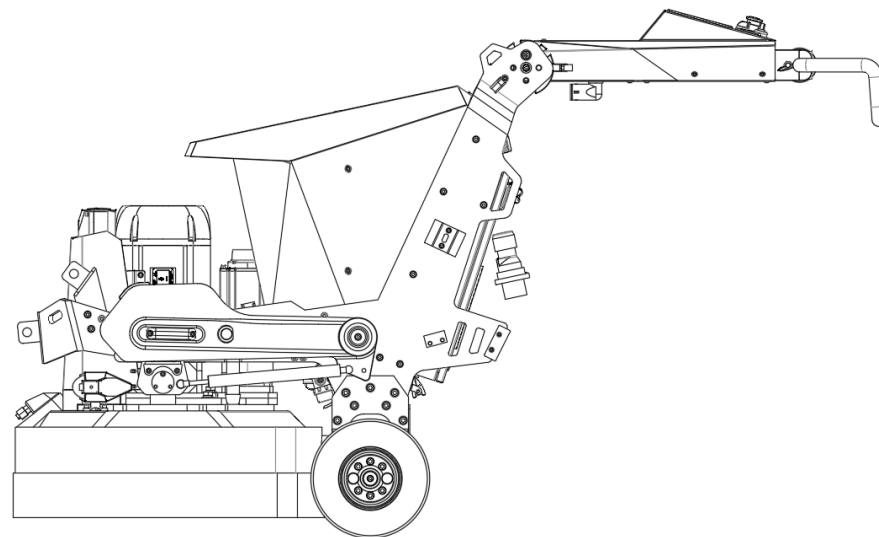
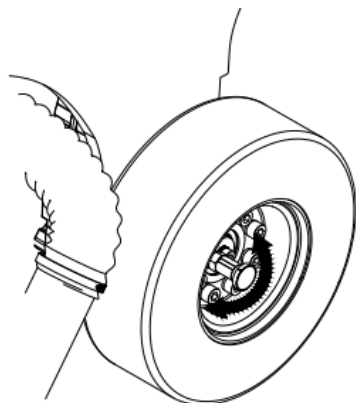
① Two-position selector switch ② Key switch

(4) Turn off the grinder: Press the emergency stop switch on the swing handle to stop the machine. Remember to reset all the switches on the swing handle, then turn off the key switch on the electrical cabinet and unplug the power supply.

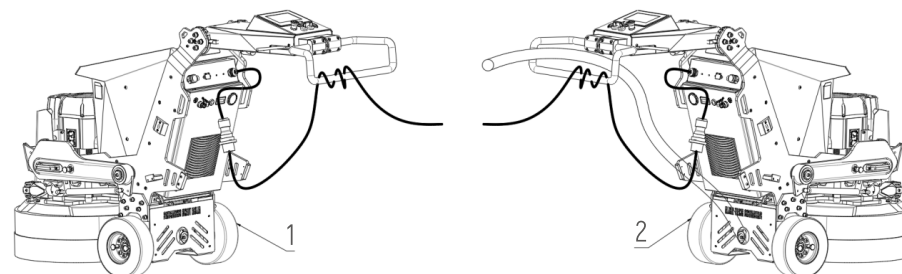


6.2.2 Remote control mode operation

(1) Lock the self-locking indexing pin (For detailed introduction, please refer to see P39), adjust the counterweight (For specific operations, please refer to see P39), the swing handle (For specific operations, please refer to see P35), and the handle (For specific operations, please refer to see P35) to the corresponding working position, rotate the supporting wheel device to the lowest position and turn it up, or remove it (after adjustment, as shown in the figure below).



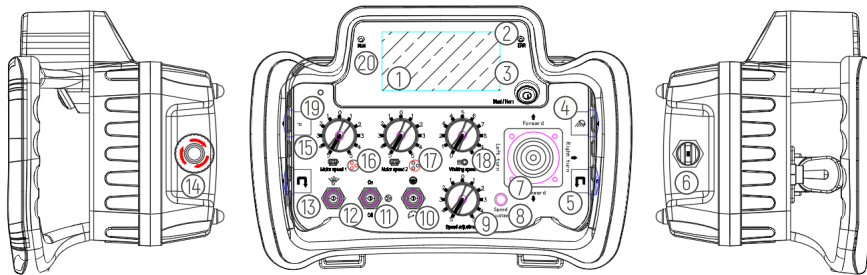
(2) Plug in the power cord (before doing this, make sure the emergency stop switch is pressed and all switches have been reset); if it is dry grinding, connect the vacuum cleaner (if the vacuum cleaner shipped by HTG is equipped with a camlock, it can be quickly connected to the vacuum cleaner. For detailed operations, see P37); if it is wet grinding, fill the water tank with water. (For detailed operations, please refer to see P37)



1. Wet grinding 2. Dry grinding

(3) Take out the remote control box, tie the remote control around your waist (see P48), turn on the emergency stop switch, wait for the HMI on the swing handle to display the interface, and press the remote control/manual mode switch on the HMI to switch it to remote control mode (a bright icon indicates that it has switched to remote control mode).

(4) Operation in normal remote control mode: Rotate the key switch on the electrical cabinet, press the reset switch, rotate the two-position selector switch to switch it to remote control mode, and rotate to turn on the emergency stop switch of the swing handle. Turn the No.6 power switch on the remote control, turn on the No.14 emergency stop switch, press the No.3 reset switch, rotate the No.16 and No.17 large and small motor speed regulator, and the No.18 drive wheel speed regulator to adjust the motor speed and drive wheel speed respectively, turn on the No.11 reset switch, and then start the machine for grinding. Use the No.7 direction control joystick to control the direction of the machine. (For specific instructions on the switches on the remote control, see P43, and the specific operation is as shown in the figure below)



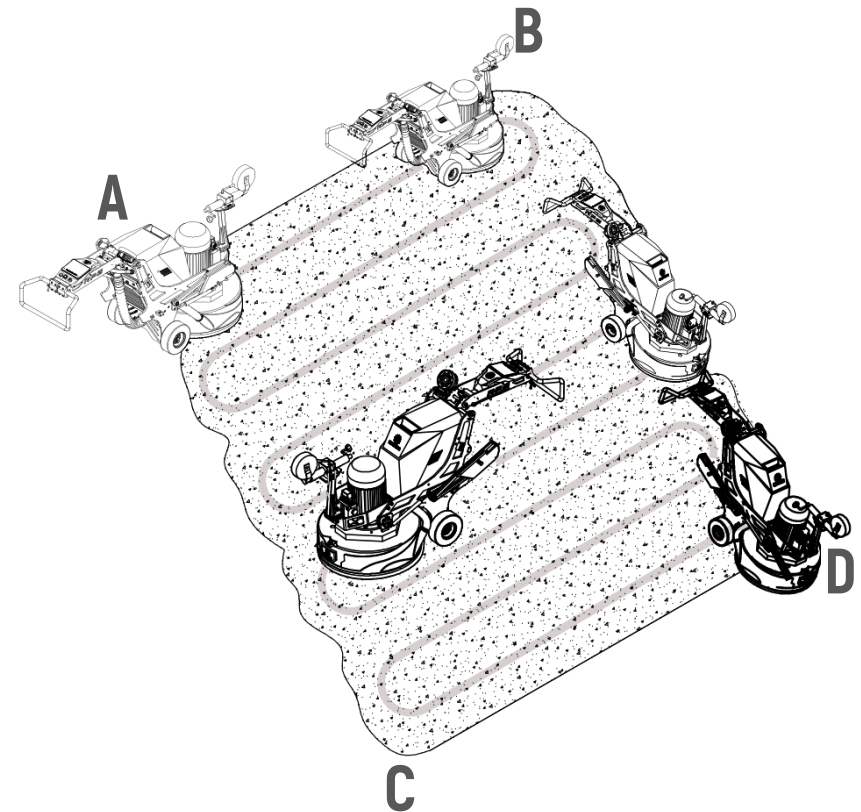
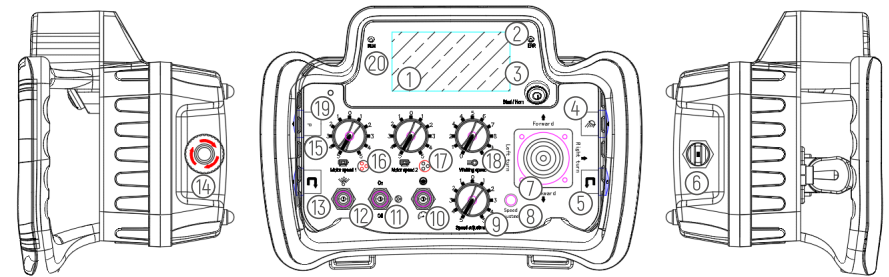
(5) Learning and memory grinding operation: For example, there is an area ABCD, and the machine starts grinding at point A and ends grinding at point D. At point A, the machine must first rotate to turn on the No.14 emergency stop switch, press the No.3 reset switch, turn up the No.10 remote control/learning and memory grinding mode switch to switch to the learning and memory grinding mode, rotate the No. 16 and No.17 large and small motor speed regulator, the No.18 drive wheel speed regulator, turn on the No.11 reset switch, use the No.7 direction control joystick to control the direction of the machine, and start the machine to grind; when the grinder is approaching point B, press the No.13 U-turn right switch, and the machine will turn right to grind. After that, the machine will continue to automatically grind between points AB until the user stops at point D, and press the emergency stop switch of the swing handle to end the grinding work.



Note:

Due to different ground quality and conditions, there will be slight deviations when using the memory function, which requires manual adjustment. At the same time, at least 40cm of space should be reserved on both sides to ensure grinding quality and prevent danger.

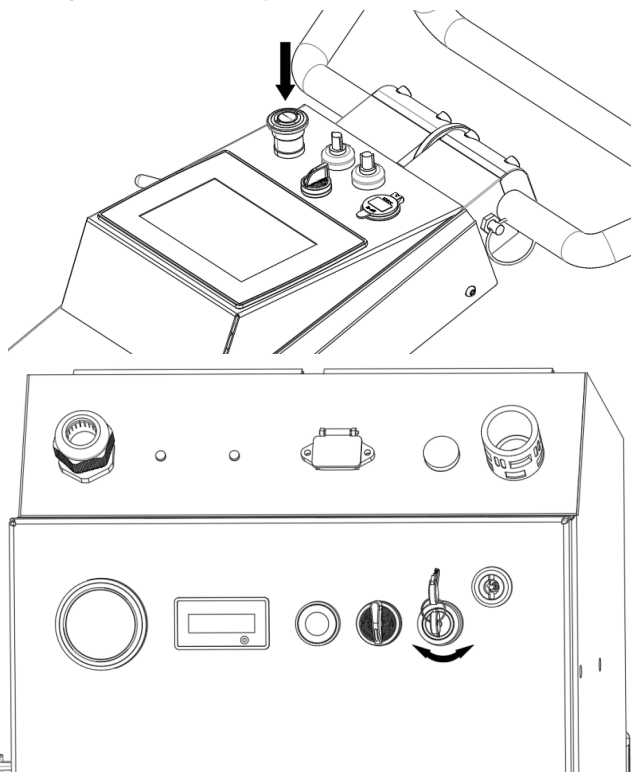
Use the NO.7 direction control joystick to control the direction of the machine. (For detailed instructions on the switches on the remote control, see P43. The specific operation is as shown in the figure below)



Note:

The grinding machine model in the above picture can be ignored and is only for reference of the grinding route.

[6] Turn off the grinder: Press the No.14 emergency stop switch on the remote control to stop the machine. Remember to reset all the switches on the swing handle and the remote control, then turn off the key switch on the electrical cabinet and unplug the power supply.

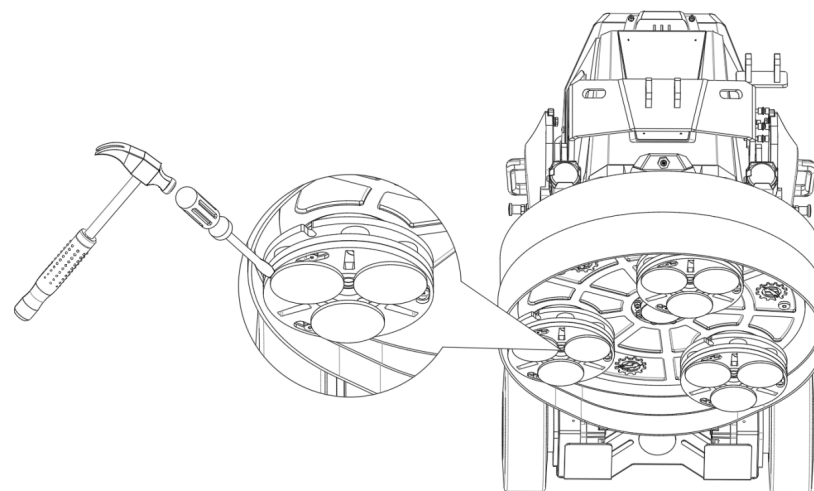


Notice:

1. When stopping the machine, if it is not used temporarily, it is recommended to unplug the power supply for safety reasons.
2. The emergency stop switch can only be rotated and pressed down according to the rotation direction on it, and cannot be pulled up.
3. When turning on the machine, be sure to reset all switches on the remote controller to ensure normal operation of the machine. Otherwise, the machine will not operate even if the power switch is turned on.
4. When using a remote control device, the remote control cannot leave the normal operating range of the machine. You can pay attention to the signal light on the remote control. Otherwise, if it is too far away, you will not be able to control the machine.
5. The grinding disc drive motor must be started before the direction joystick can be moved.
6. When the machine needs to stop working or in an emergency, press the emergency stop switch on the remote control.

6.3 Replacement of abrasive

When replacing the abrasive, you need to adjust the machine to the tilt position, then tilt the machine and carefully lay it flat. After laying the machine flat, stand next to the machine and check whether the machine is stable. Use a screwdriver and hammer (or other tools) to knock out the abrasive or velcro-adaptor, and then replace it with a new abrasive.



6.4 The winding method of machine working wire

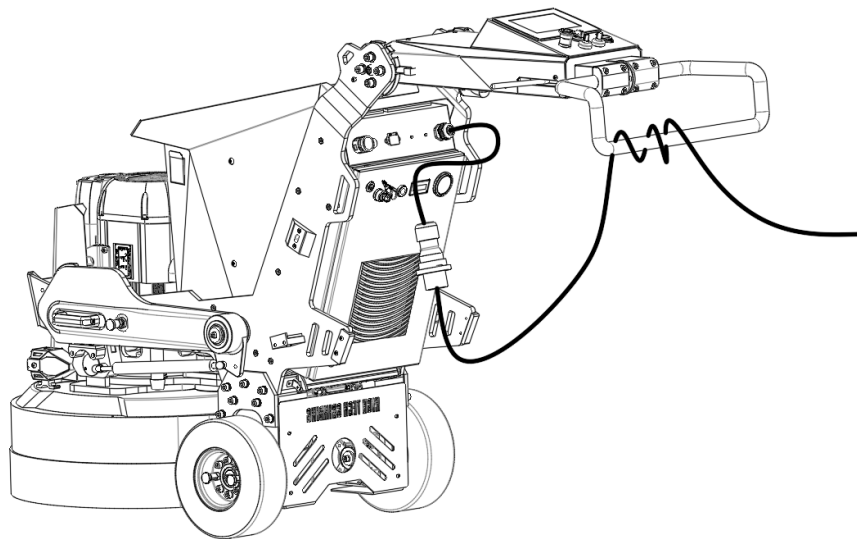
When the machine is working, the wire winding method is particularly important, which can greatly improve your work efficiency and safety. The specific operation methods are as follows:

1. Plug in the external power supply.
2. Pass the power cord through the swing handle.
3. Wrap the power cord around one side of the handle at least twice.
4. Pull the power cord slightly to ensure that there is enough friction to firmly fix the power cord on the handle.



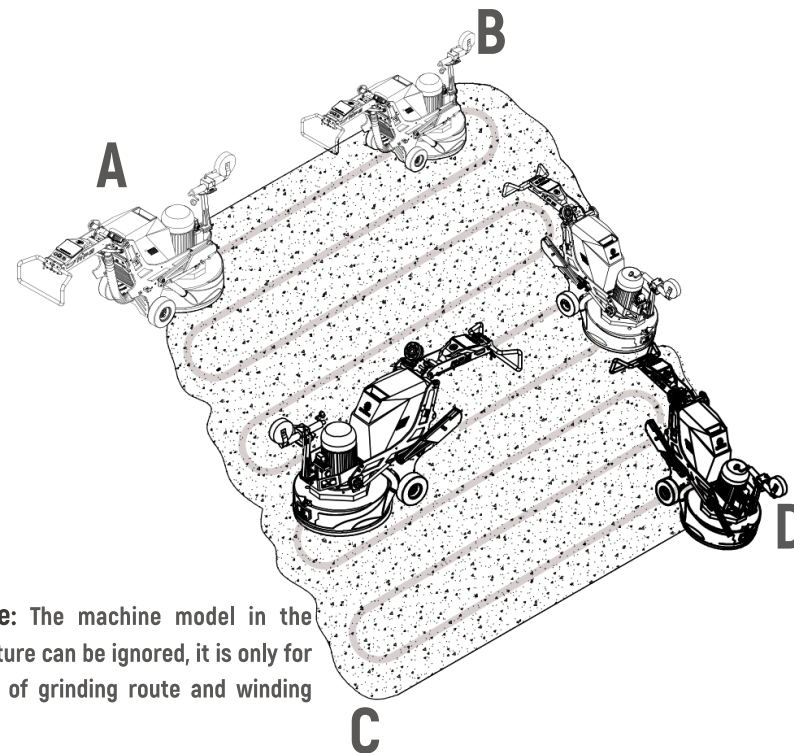
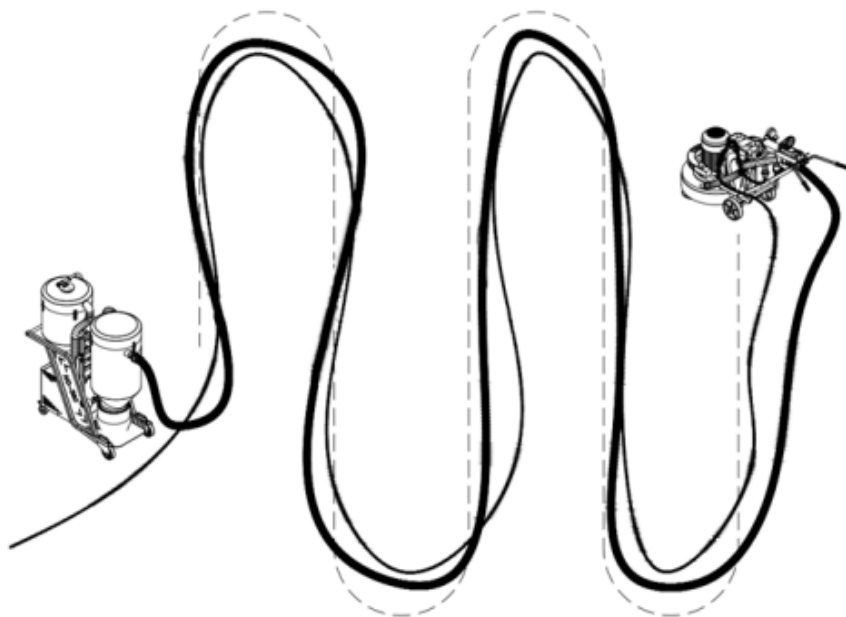
Note:

1. Make sure the power plug and socket are firmly connected.
2. Before plugging in the power plug, make sure the emergency stop switch has been pressed and other switches have been reset.
3. Please use the power cord according to the minimum specifications of P73.
4. Please use the correct power supply.



6.5 Optimal grinding route

When grinding the floor, you should grind it in the shape of #, so that the grinding effect will be better. When grinding the floor in the shape of #, the grinding direction of the grinder should be such that the wire is pulled farther and farther, so as to further avoid the wire interfering with the normal operation of the grinder.



⚠ Note: The machine model in the above picture can be ignored, it is only for reference of grinding route and winding method.

6.6 Notes

Please be sure to read the following content carefully, otherwise it may cause unnecessary harm.

1. During the grinding process, you must pay attention to the battery indicator on the remote control. When the battery is low, you should replace the battery in time or stop grinding to charge the battery. Otherwise, HTG will not compensate for any losses caused by it.
2. During the grinding process, be sure to always pay attention to the signal status reflected by the signal indicator light on the remote control.
3. When grinding, just flick the direction control switch of the remote control.
4. When grinding, pay attention to observe the wires while grinding to prevent the wires from being compressed.
5. During the grinding process, be sure to pay attention to nearby obstacles to avoid machine damage and personal injury.
6. Before grinding, pay attention to resetting the self-locking indexing pin. If it is not reset properly, the machine will not move.
7. The work area should be checked for safety before grinding. For details, see P05.

7. Equipment Maintenance

7.1 Overview

We recommend that you inspect your grinder regularly to extend its life.



Note:

During maintenance and repair, the grinder must be disconnected from the power supply. Use protective equipment such as safety shoes, protective gloves, protective masks, etc.

7.2 Daily Inspection

7.2.1 Check the switch

Turn on the screen and test the functions of each button.

Connect to the power supply and test the emergency stop, machine start, speed regulation and other functions of the control panel.



Notice:

For safety reasons, it is strongly recommended that you remember to press the emergency stop switch when stopping the machine so that all switches are reset, which is safer.

7.2.2 Check the grinding disc cover

When there is a lot of dust, it is easy to cause the hose on the grinding disc cover of the grinder to be blocked by dust. Use a flashlight to illuminate the hose to see if there is any dust blocking it. Clean it if necessary. (See P69)

7.2.3 Check the grinding disc

When the grinder is working for a long time or there is a lot of grinding dust, the velcro-adaptor of the grinding head may be stained with dust. Too much dust and not cleaning it in time will cause the grinding head and the velcro-adaptor to not fit well, affecting the grinding efficiency. In more serious cases, it will cause the abrasive to fall and cause an accident. Remember to clean it when necessary. (See P69)

7.2.4 Long-term storage of battery

- During long-term storage, the battery should be maintained and charged once a month.
- If storing for more than 1 month, remove the battery from the remote control.

7.2.5 Note



Remember to use protective equipment when performing maintenance inspections, such as protective gloves, protective masks, insulated shoes, etc.

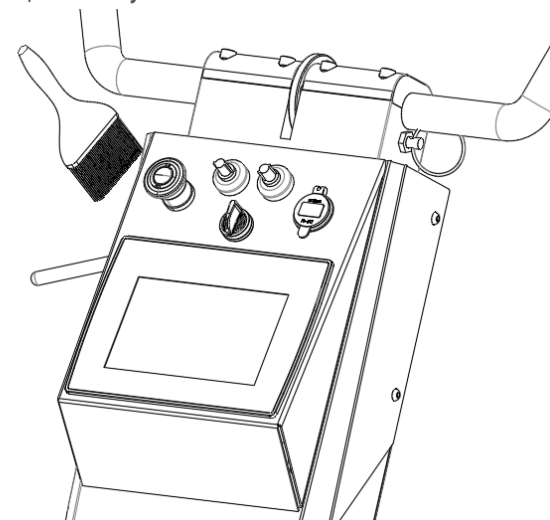
Inspection and maintenance can only be carried out after pressing the emergency stop switch and unplugging the power supply.

When you tilt up the machine, remember to check whether the machine is level before checking the grinding disc.

7.3 Cleanup

7.3.1 Clean the switch

The grinder works on the construction site for a long time, and dust will inevitably get into the switch. Therefore, after each operation of the grinder, you should check whether the switch part is blocked by dust, which may cause the switch to malfunction.



7.3.2 Maintenance of remote control equipment

You can wipe the switch with a fine brush or soft, dry cotton cloth, but never rinse with water; Keep the battery compartment clean.

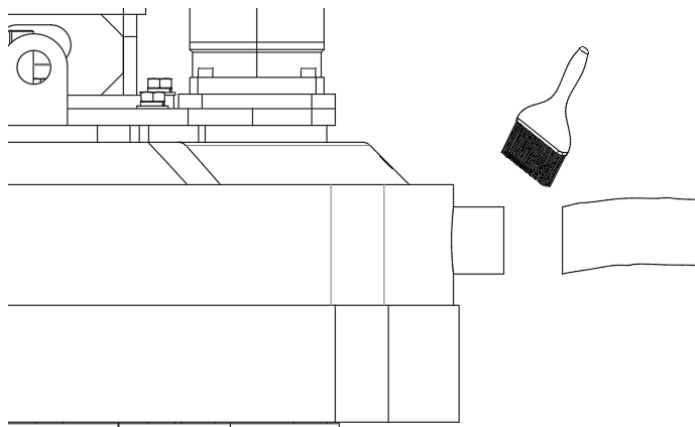
If the remote control is not used for a long time, the battery must be removed.

When using rechargeable battery, please ensure that the battery are fully charged for the first use; if the battery are not used for a long time, store them at room temperature and charge them regularly to prevent self-discharge and battery damage. (charge them once a month)

If the remote control is not used for a long time, the battery must be removed.

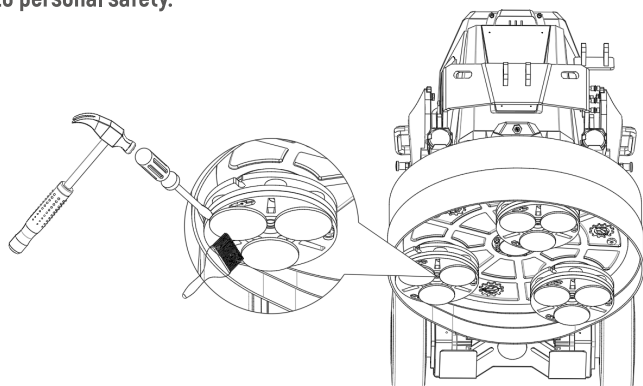
7.3.3 Cleaning the grinding disc cover

Remove the hose connector, illuminate the hose opening with a flashlight, and use a brush to clean the dust at the hose to prevent it from clogging and affecting the vacuuming efficiency.



7.3.4 Cleaning the velcro-adapter

Tilt the machine up, use a screwdriver and hammer (or other tools) to knock out the abrasive or velcro-adapter, and clean up the dust. If it is not cleaned in time, the abrasive may not be firmly bonded, and it may fly during the grinding process, causing damage to the machine and a threat to personal safety.



7.3.5 Note

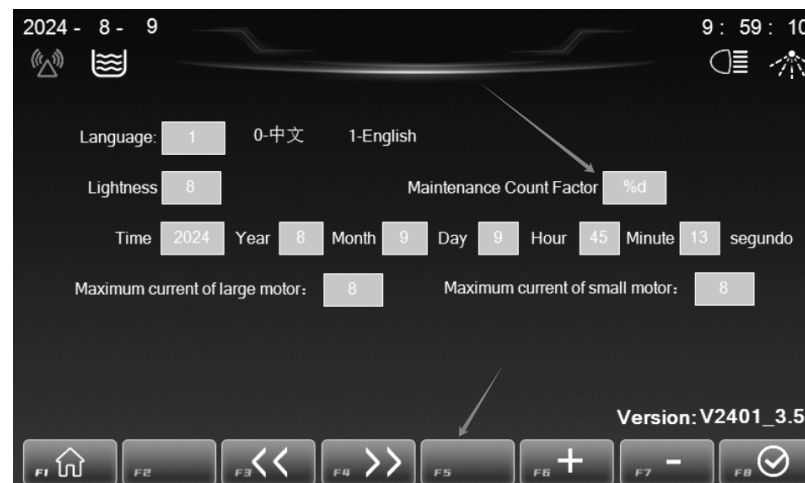
1. Always unplug the plug from the socket before cleaning, maintenance or assembly.
2. Be sure to clean the entire machine after work each day. Do not use a high-pressure cleaner to clean the machine directly.
3. In order to effectively cool the machine, the cooling air vents must be kept unobstructed and clean.

7.3.6 Abrasive wearing

Start the HMI and press the F5 to set the estimated grinding time of the grinding tool on the interface (for different abrasives, set the time based on your own experience).

This function is a countdown. When it approaches 0, the screen will show a warning "The abrasive has been consumed, please replace the abrasive". At this time, please check and replace the abrasive.

If the abrasive has not been consumed, please continue to set the usable time and press F1 to cancel the alarm and resume work!



7.4 Battery disposal

7.4.1 Overview

The battery in the machine and remote control are lead-acid battery. In extremely cold conditions, the battery capacity will decrease and the service life will be shortened. Any modification to the battery is prohibited.

The battery must be charged at an ambient temperature between 0°C and 40°C, and only the original battery and charger provided by HTG should be used. For details, please consult your local dealer.

Used battery must not be disposed of as household waste! Send used battery to the nearest maintenance shop or recycling point for disposal.

7.4.2 Battery

The battery can only be used in transport mode. Grinding operations must not be performed in battery mode. The machine must be connected to the power supply for grinding operations.

When the machine is connected to a three-phase power source and in operation, the battery is always in a charged state. The battery level is displayed on the battery indicator, so you can always monitor the level.

The machine battery needs to be charged using the charger provided by HTG. The model is a lead - acid battery which can support for 45 minutes. The charging time is about 4 hours.

When the machine is not running, the emergency stop switch can be reset and the power supply can be connected to charge the battery.

The design life of lead-acid battery is 1-2 years.



Note:

When storing for a long time, the battery should be charged by first plugging into a 3-phase power source, releasing the emergency stop switch, and then pressing the battery start system, so that the battery can be charged.

7.5 Overload protection

The inverter of this equipment is equipped with overload protection. When the equipment is overloaded, the HMI on the control panel will show that the equipment is overloaded. At this time, it is necessary to cut off the power, reduce the load, stop the machine for 10-30 minutes (depending on the heat of the motor), and then start the machine.

7.6 Repair

Any repairs that may be required must be performed by HTG Service Center trained service personnel and using HTG original parts and accessories. If your machine requires repair, please contact your retailer.

8. Common problems and solutions

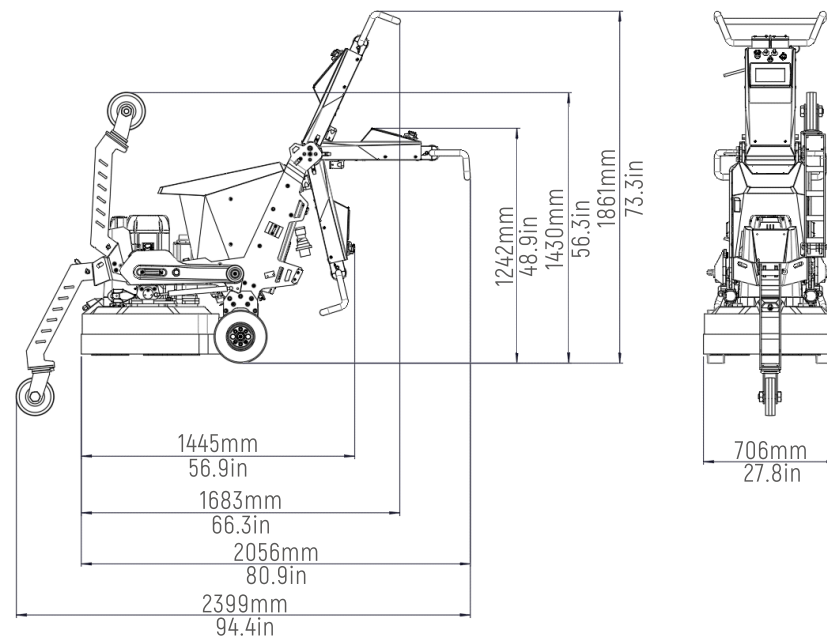
This chapter describes some possible faults and how to deal with them. If they cannot be solved or an error occurs, please contact your nearest retailer.

Problem	Possible Cause	Solution
Cannot start the machine	The emergency stop switch is pressed	Release the emergency stop switch
	Motor is stuck	Troubleshooting motor jam
	Power system and cables are damaged	Contact a licensed electrician
	Not operating according to specifications	Refer to the operation instruction video
When turned on, the machine emits a low humming sound	Motor burnt out	Replace the motor
	Three-phase power failure	Contact a licensed electrician or check whether the input power is three-phase input
The machine is difficult to control or the motor consumes a lot of current	Too few diamonds under the machine or wrong type of tool applied	Use the number of diamonds recommended by HTG to reduce stress on the grinder and operator
Lead-acid battery built into the machine 1.Cannot charge when using three-phase power 2.Cannot charge when using dedicated charger	Three-phase power supply voltage is lower than 320V	Make sure the voltage is not less than 320V
	Lead-acid battery power is used up to 0	Charge for 2 hours using a dedicated charger
	The battery is damaged, or has been charged and discharged more times than its lifespan	Consider replacing the battery
	Dedicated charger is damaged	Replace the charger
Machine vibration	The diamond may not be installed correctly or at a different height	Correctly install diamonds with the same height
	Is the grinding disc flat?	Adjust and install the grinding disc
The machine moves forward or backward out of control	The self-locking indexing pin of the wheel is broken or there is no self-locking indexing pin	Replace or install a new self-locking indexing pin
	Servo motor, servo controller failure/remote control receiver failure	Contact HTG for repair
	Is the key way connecting the shaft and the drive damaged?	Check and contact HTG for repair or replacement of damaged key ways

9. Technical Data

The tables and pictures show the technical data and dimensions of the grinding machines.

Model	HTG-680GBD
Motor Power	11.0KW + 1.8KW
Rated Voltage	3PH 380V
Rated Current	26.25A
Input Hertz	50HZ
Inverter power	11.0KW+2.2KW
Grinding Width	678mm/26.7in
Grinding Disc Size	Φ230mm/Φ9.06in
Grinding Speed (Main motor)	350 - 1950 r/min
Grinding Speed (Planetary motor)	350 - 2250 r/min
Grinding Pressing (Counterweight in front)	299KG
Grinding Pressure (Counterweight in the middle)	249KG
Grinding Pressure (Counterweight at the back)	241KG
Dimensions (Tilt position) Length × Width × Height	1683×706×1861mm/66.3×27.8×73.3in
Dimensions (Working position) Length x Width x Height	2056×706×1242mm/66.3×27.8×48.9in
Dimensions (Packaging position) Length × Width × Height	1445×706×1430mm/56.9×27.8×56.3in
Longest × Widest × Highest	2399×706×1861mm/94.4×27.8×73.3in
Machine Weight	580KG
Wire Type	3*10mm ² +1*6mm ²
Storage Temperature	-20~+60°C/-4~+140°F
Operating Temperature	-10~+40°C/+14~+104°F
Humidity	Below 95% (no condensation)



10. Warranty

Warranty Policy

HTG is not responsible for the cost of machine damage caused by transportation, unpacking, or improper use. Local dealers may have specific warranty terms. Please contact the local dealer for specific terms.