

BMGM-19 GRINDING MACHINE



For the safety of yourself and others, please carefully read and fully understand the manual before the use of the machine, esp. SAFETY page

THE POWER IN SURFACE DRINDING & POLISHING!

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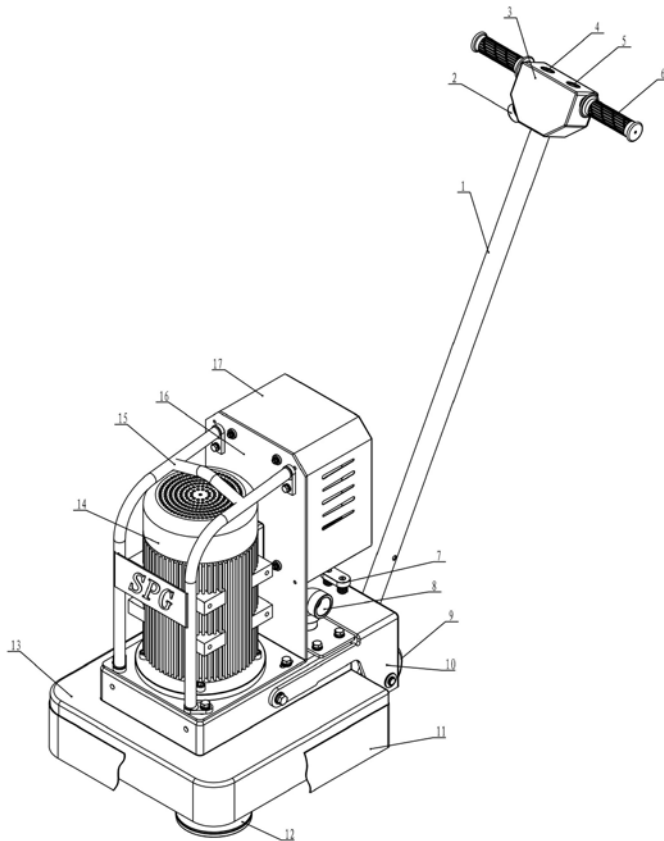
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1. Safety

1.1 Machine structure and use rules

The main use of this machine is grind & polish concrete floor, self-leveling floor, hardening floor, marble or grinding stone etc, you can use it to remove adhesive, thin set and screed. It can work long time to meet high-class floor construction requirement with high power motors and high power frequency conversion device, works both dry & wet grinding. The main parts are as below picture show



- | | | |
|-------------------------|------------------------|--------------------|
| 1. Handle | 2. Speed adjust button | 3. Switch box |
| 4. Emergency stop | 5. Start button | 6. Handle cover |
| 7. Handle adjusts pedal | 8. Vacuum exhaust | 9. Transport wheel |
| 10. Wheel frame | 11. Dust seal | 12. Polishing pad |
| 13. Basement | 14. Motor | 15. Protect frame |
| 16. transducer plate | 17. Motor control box | |

Do not use this machine for other purpose besides grinding and polishing, this might will damage machine and cause operator injure. we hereby claim the caused by machine damage is not within quality warranty .

Misconduct (included but not limited)

Wrongly operate machine without observing manual , esp. fail to observe safety page

Use this machine for wrong purpose

Use this machine on untreated floor, eg. removing objects that are protruding above the surface

1.2 GENERAL SAFETY GUIDELINES

Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be used by qualified and trained personnel only. This equipment should not be operated by persons under 18 years of age.

Do not modify the machine. Doing so may cause improper operation and may not be safe.

- Always use proper heavy lifting techniques when moving equipment.
- Always make sure that machine is kept in proper operating condition.
- Never operate this equipment without proper protective clothing including footwear.
- Always keep rotating parts clean when operating.
- Never leave machine unattended while running.

SAFETY PRECAUTIONS

- The surface to be treated must be swept clean to remove stones, screw etc.
- Never use the machine when the surface is not clear and if there is a risk of tripping
- Make sure there is no a large of water or oil pollution on the surface to be treated.
- Remove any trailing electrical cables and or duct hoes from the surface to be treated.
- Ensure that work power stable, all power supply must be approved by leakage protection device
- Do not get disturbed during the activities.

SAFETY REGULATIONS

- Persons who are not operating the machine must not be permitted to stay in the

surrounding area of the machine



- Always use cables that are approved and safety earthed. Make sure that the machine is equipped with an earthed connection, do not change this and always use earthed cables with earthed plug. main power supply must with earth and short circuit protector
- Inspect and test the electrical components regularly. The electrical components have to satisfy the requirements that apply to these components.
- If any electric part have problem, get skilled electrical's help as well as in accordance with the electrical engineering regulations.
- Switch off power before maintenance.
- Do not use on slippy surface , do not operate machine in rain.
- Be aware of safety work practice this machine contain rotating parts.
- Pay attention electric wire, no damage and always stay out of grinding area
- Make sure the machine is clean and the handgrips are dry and free of grease and oil.
- Ensure dust seal in good state, which can reduce overflow dust .
- Switch off power before change blades.
- Use fork or equipped lift bar when moving this machine
- Lifting machine must use machine protection frame as a hook


1.3 Motor and frequency transducer safety instructions

The output speed is range from 0-2200 rpm by motor control. Tips for motor control operation:

- this machine can match 2 type motor voltage:220v or 380v, domestic machine is designed match with 380v, consult us if you need 220v.
- The motor control frequency converters' date are set already, do not change in random. Use reset button if have problem.
- Clean motor and frequency converter by compressed air or dry brush, no water allowed .
- Always keep plug(on frequency converter) in good state ,consult manufacturer if need replace a new one

1.4 Safety label

label ↵	Meaning ↵
 <p>不允许使用高压水枪来清洗机器 ↵</p>	<p>Warning! ↵ No water blast gun allowed for cleaning ↵</p>
 <p>警告 操作机器前必须仔细阅读整机的使用说明书 未经授权或者授权的人员请勿靠近运转的机器 在维修和保养机器时必须断开电源 在更换零件时必须断开电源 确保粉尘安装良好没有堵塞 确保机器安全功能和操作功能良好 不允许使用有缺陷的电源线 必须使用叉车、吊车等设备来搬运机器 必须使用有接地和断电保护的外接电源 ↵</p>	<p>Warning! ↵ As label content show ↵</p>

 <p>当心触电 当心电缆</p> <p>电源接地 注意防尘</p>	<p>Meaning of these symbols are !</p> <ul style="list-style-type: none"> ● Danger High Voltage ● Watch wire on the ground ● Ear protection is obligatory ● Safety glasses with lateral protection are obligatory ● Make sure that the machine is equipped with an earthed connection ● Use vacuum cleaner or mask ● Safety shoes obligatory ● Consult the manual before operating the machine
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2. OPERATIONS

2.1 GENERAL

Before using the machine it is important to inspect the machine.

It is not permitted to use the machine if the machine safety is not according to the checkpoints below.

Use national standard 4 square meters cable and no longer than 60 meters

CHECK POINTS OF THE ELECTRICAL SAFETY

- Use only extension cables for extending the main cable that are sized and marked in accordance with the overall power consumption of the machine.
- Electrical cables must be rolled entirely off the reels
- Any damage to electric cables is not permitted
- Use an electrical power supply connection with earth connection.

CHECK POINTS OF MACHINE SAFETY

Check if:

- The safety functions and operating functions work correct
- The flexible coupling is not deformed or damaged
- The diamond/multiflail disc is not damaged.
- There are no damages on electrical components.
- There are not any loose nut or bolts
- There is not any damage to the dust hose and if it is connected correctly
- The soft rubber mat and sleeve are in position.

MOUNTING THE BLADES

Make sure the power supply plug is out of the machine!

A. Resin blades

Step 1: Lay out the machine so it is lying on the handle. Make sure the machine will not fall back down.

Step 2: check if rubber soft pad and sleeve in position or damaged ,replace if damaged.

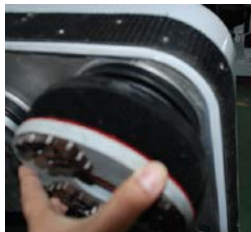
Caution: put the short head inside the aluminum base!



Step 3: Press the flexible rubber to the aluminum base.



Step 4: stick resin blades onto flexible rubber



B. Polishing pad

Install the polishing pad onto the flexible rubber .



C. metal flexible blades

Choose right blades for 4 inner and 4 outside position. This two different 4 running on opposite direction. We will mark "inner" & "outer" on both 4 blades. install the match ones.



D. metal magnet blades

Place the magnet blades on its plates, then insert into the rubber sleeve on aluminum base.



Tips : shake plates on the rubber sleeve center line when taking off the blades.

Notice : hold the machine down to ground with control lightly and slowly when finished blades .

REMOVING THE BLADES

Make sure the power supply plug is out of the machine!

- Lay out the machine so it is lying on the handle. Make sure the machine will not fall back down.
- Remove resin or polishing pad directly or take off the whole metal blade plates .

BEFORE OPERARING**HANDLE ADJUSTMENT**

Use the foot to push down the handle Adjust pedal to a comfortable operating angle.

**VACUUM CLEANER CONNECT**

Connect the vacuum cleaner dust hose to the exhaust adaptor. Make sure all the connect is correctly seal.

MAIN POWER SUPPLY CONNECT

Connect the main power plug and make sure it is right earthed



2.3 OPERATING

Main power supply must equip with an earth leakage circuit breaker!

OPERATING

- Turn on the vacuum cleaner before starting the grinding machine
- Push the green start button to Starting the machine
- Adjust the speed adjustable button to maximum speed(0-2200rpm)
- If face emergency situation Please press the emergency Stop switch



2.4 STOP

Step 1: Adjust the speed to stop and keep machine moving before fully stop.

Step 2: press stop button(red one) .

Step 3: loose buckle then take off plug lightly by holding socket.

SPG GM-19 grinding machine will always have an even and fast grinding result because of it special design. However it is advised to keep the machine constantly in movement for an optimum grinding result.

2.5 Application

- with both dry and wet grinding or polishing
- remove paint, thin set and screed
- repair & grind concrete floor
- hard concrete floor and expo floor
- marble & terrazzo

Not only beautiful floor but also excellent quality and wear resistance properties after grinding with this machine.

3. MAINTENANCE

3.1 Scheduled maintenance

- Work only with original SPG service parts.
- Check regular to see if the diamond blades are in good condition. Replace immediately when these are damaged or worn out.
- Prevent premature wear by keep the machine as dust free as possible, for this reason cleans the machine regular with a dust collector (vacuum cleaner) especially the upper drive.
- Clean the machine every day with air and non-aggressive materials.

Never use high pressure water to clean the machine!

Tips: apply lubricating oil to the most easily gathering dust parts surface , helps a lot with cleaning job .

- Store the cleaned and dry machine in s dry and humid free room. Protect the electrical motor from moisture, heat, dust and shocks.
- All repair work must to be done by a qualified SPG personnel, this is guarantee a safe and reliable machine.

3.2 Quick were part list

check and replace these parts in time for good machine performance

No.	item	number	remark
1	Dust seal	1	
2	soft pad D1	48	
3	Rubber sleeve C1	16	
4	blades	8	

3.3 Transportation and storage

3.3.1 transportation

- take off plug
- fold the handle, insert lift bar in position and screw tightly, move by 2 man or lift by fork.
- Use proper vehicle for long transportation
- Leave the unattended person far when upload machine.

3.3.2 storage

- fold the handle if storage space is limited
- Protect machine by dust free fabric and store in dry, clean room

3.4 common troubleshooting guides

trouble	reason
Can't start	1、 Wire is not up to national standard 6 m ² 2、 Damaged wire 3、 Start wire line have problem
Stop suddenly	1、 poor floor, try reset button
Frequency convertor error	Try reset button

4. SPECIFICATION

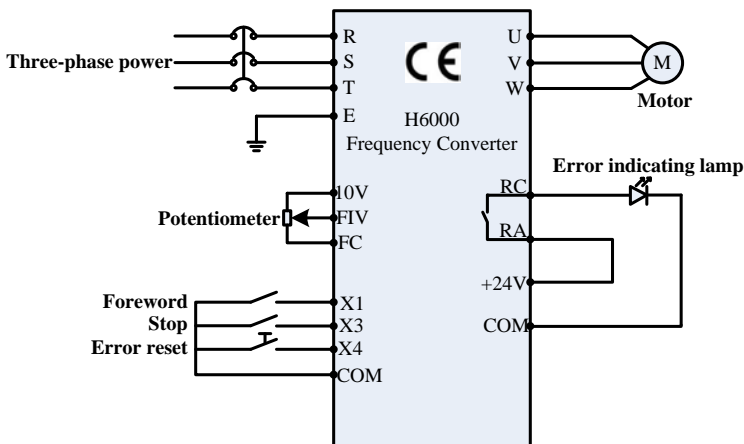
4.1 Technical date

Technical date	Date
Item number	GM19B
Working size(mm)	480mmx480mm
Disc size(inch)	5-3/4"
Disc speed range(rpm)	0~2200RPM
Motor horsepower	10hp
Convertor capacity	11Kw
Motor voltage(V)	380v
efficiency	13m/M
Net weight(kg)	167kg

4.2 , Wiring Drawing

The factory value is set as follows(F0.13=1):

- F0.01=1 (Terminal to start)
- F0.03=1 (Speed governing of FIV)
- F0.04=60.00Hz
- F0.05=60.00Hz
- F0.08=3.0S
- F0.09=3.0S
- F5.00=1 (Foreword X1)
- F5.02=3 (Three-wire system X3)
- F5.03=7 (Error reset X4)
- F5.05=2 (Stop)
- FD.09=0 (Invalid under limited current and constant speed)

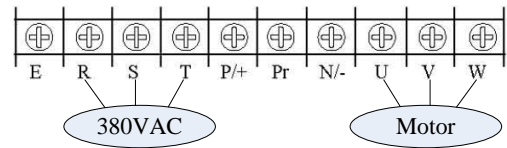


2)Note:

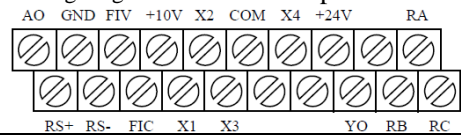
- ①The initial value of F0.04, F0.05 is 60Hz, you can change thses two parameters to 50Hz after leaving factory.
- ②The initial value of F0.08,F0.09 is 3s,advising reset the value of F0.08 to 5s-10s, and F0.09 to 10s-20s.
- ③In practical application, we need do static autotuning accord the motor parameters F2.00~F2.05,The parameters of static autotuning is F0.12=2,refer to page 32~page33 of the users manual.

18.5KW/380V

Wiring diagram of frequency converter:

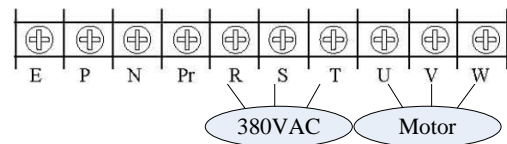


Wiring diagram of control loop:

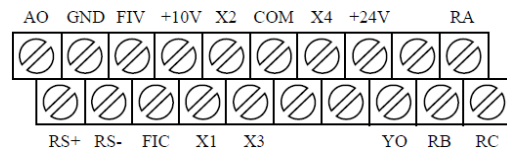


11~15KW/380V

Wiring diagram of frequency converter:



Wiring diagram of control loop:

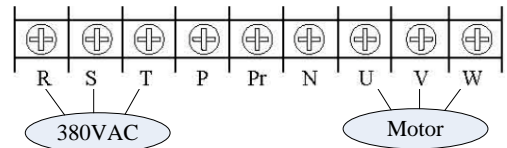


7.5KW/220V

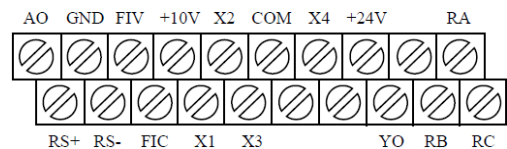
The wiring of this machine concomite with machine of 15KW/380V(380VAC power change to 220VAC).

3.7KW/380V

Wiring diagram of frequency converter:

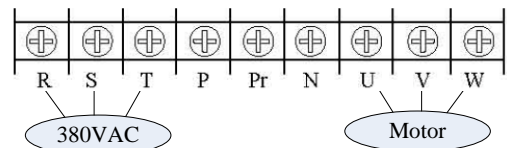


Wiring diagram of control loop:

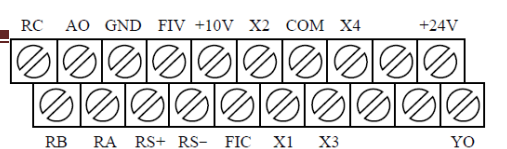


2.2KW/380V

Wiring diagram of frequency converter:



Wiring diagram of control loop:



5. WARRANTY

5.1 after-sales service

Authorized agent is required to keep low limit SPG parts storage and equipped special tools . only the trained technical can repair this machine.

Only the manufacturer of HANGZHOU SPG ENGINEERING INC. or authorized agent can provide quality warranty service . customer can refer them by fax, E-mail or in written .

5.2 1-year warranty (commercial use)

Your new *SPG* GM-19 grinding machine is warranted to the original purchaser for a period of one year from the original date of purchase.

The *SPG* warranty is against defects in design, materials and workmanship.

Non warranty scope

We feel sorry for the inconveniency caused by problem call. We will accept most problem call as we should, However The following are not covered under the *SPG* warranty:

- Damage caused by abuse, misuse, dropping or other similar damage caused by or as a result of failure to follow assembly, operation or user maintenance instructions.
- Alterations, additions or repairs carried out by persons other than *SPG* or their recognized agents.
- Transportation or shipment costs to and from *SPG* or their recognized agents, for repair or assessment against a warranty claim, on any equipment.
- Materials and/or labor costs to renew repair or replace components due to fair wear and tear.

SPG and/or their recognized agents, directors, employees or insurers will not be held liable for consequential or other damages, losses or expenses in connection with or by reason of or the inability to use the equipment for any purpose.

WARRANTY CLAIMS

All warranty claims should firstly be directed to the local dealer, either by telephone, by fax, by email, or in writing.

Any guarantee on the machine is automatically void when

- Non original *SPG* parts and diamond blade have been used
- Repair work is not done by qualified *SPG* personnel
- Changes, add on or conversions are undertaken with the written permission from *SPG* Engineering Inc.

GM19B Grinding machine standard package

Grinding machine	1
Lift bar	4
Dust seal	1
Soft pad D1	42 piece
Rubber sleeve C1	16 piece
Frequency convertor instructor	1
GM19B manual	1
Quality certification	1
Warranty hangtag	1

NOTES
