

Instruction Manual

for

POWER HAND[®] 3

PH3 Controller

#510-3300



Introduction

The Gesswein PH3 Controller is a compact variable-speed power pack that can run any of the Power Hand 3 and PH2X rotary, reciprocating or belt sanding handpieces. Backed by a full one-year warranty.

Two output stations on the Standard Controller are conveniently provided for operations requiring more than one handpiece. The two stations ensure optimum speed and torque for each handpiece. Dual outlets eliminate the need for frequent tool changes. The Motor Switch permits rapid change from one outlet to the other. Handpiece speed is controlled by either the Manual Speed Dial or the optional Foot Rheostat. The RPM speed is displayed in LED lights. A Rotation Switch allows the operator to select the required direction of rotation.



The Gesswein PH3 Controller features a positive motor overload cutoff that delivers maximum energy output for each handpiece while providing full motor protection. The electronic feedback circuitry maintains handpiece speed as load increases, and a built-in Thermal Sensor provides circuitry protection.

The Gesswein Power Hand 3 handpiece series consists of 6 rotary motors, 2 profilers, 1 beltsander, and 8 head assemblies with maximum operating speeds ranging from 8,000 to 55,000rpm and 0 to 117 strokes per second. All models are identified by their names, which are engraved on the motor housings.

Precautions

The following shows how to operate this product safely, preventing danger or damage before it happens.

Never fail to follow these instructions, which are critical for safe operation.

 WARNING	This symbol indicates the possibility of serious injury if this product is operated improperly, regardless of this instruction.
 CAUTION	This symbol indicates the possibility of being hurt or generating material damages if this product is operated improperly, regardless of this instruction.

Clothes While At Work

WARNING

- Please work in proper attire. Knitted gloves, clothes with open cuffs and long hair are in danger of being caught in the handpiece.

CAUTION

- Please put goggles on to prevent dust and debris from entering eyes. In addition, please put a protective mask on to avoid inhaling dust and debris.

Safety Operation

WARNING

- Please use this product in a place where the temperature is from 0° to 40°C and the relative humidity is from 20 to 80% (no dew condensation). Please never use them in humid, wet places and outdoors in the rain. It may induce electric shock or fire, weaken insulation and cause rust and bad operation.
- Do not use in any place where there are flammable or explosive materials such as lacquer, paints, thinner, gasoline, gas and adhesives.
- Ensure that there is no flammable and no corrosive gas areas.
- Notice any damage to the AC cord, foot switch cord or motor unit cord. Damaged cords can cause electrical leakage, shock, or fire.

⚠ CAUTION

- Use tools such as burs and mounted points within specified standards, and permitted range of rotation speed.
- Do not place a cloth or anything else on the ventilation slits of this product. Avoid using while dust is around the ventilation outlet.
- Take care not to allow water, oil, and dust to enter controller.
- Do not blow compressed air into ventilation inlet of the product.
- Keep this product out of reach from children.
- Never make modifications which may damage performance and safety.
- Keep this product in a dry location.

Precautions While At Work

⚠ WARNING

- Never fail to use the controller under the voltage indicated in the panel.
- While the handpiece is operating, keep hands, eyes, and face away from all rotating parts.

⚠ CAUTION

- Make sure there is nothing unusual such as a bent tool, or a cracked or broken stone.
- Make sure the Handpiece is stopped before changing tools.
- Make sure collet chuck is not loose, and tool is held firmly.
- Do not operate the Handpiece when Set Ring is on [R]side. Do not turn Set Ring while Handpiece is rotating. This may cause damage to not only the Handpiece, but the whole system.
- Do not apply too much pressure while operating. This may cause inefficient results, deformation of tools, and other possible damage.

Maintenance and Inspection

After use remove dust or other debris with a brush or soft cloth.

- This controller is not waterproof. Please do not wash in water.
- May be cleaned with a well wrung cloth dipped in a detergent and water solution and then wipe dry.
- Inspect after each use. If anything unusual is detected please contact your supplier before using again.
- Periodical inspection is recommended every 1 or 2 years for safely and efficiently. Please consult your supplier for this service.

Safety System

Circuit Breaker

The Circuit Breaker will temporarily stop power supply when operated abnormally such as: too much load, locked handpiece, turned set ring by mistake while rotating, etc.

State of Overload

A warning light will sound when the handpiece is overloaded.

Circuit Breaker Cuts Off

When circuit breaker cuts off, handpiece stops, and all of load indicator lights up and [OL] will illuminate on digital display.

How To Release

Please push Start/Stop Button(12), Hand Button(B), Station A Selection Button(4) or Station B Selection Button(6) to release the Circuit Breaker.

- When the Variable Foot Controller is used, it is possible to release it by returning the pedal to original position.

Thermal Sensor

When used in high pressure for a long time, internal temperature of the controller will be high, and the Thermal Sensor will automatically stop the unit temporarily. When the Thermal Sensor is activated, the Handpiece stops and [OH] is displayed on digital display.

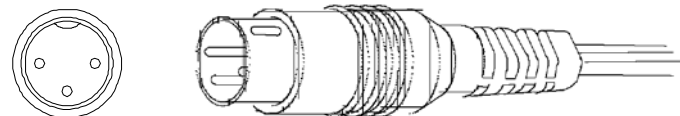
About Release

When the internal temperature falls, the Thermal Sensor is automatically released.

- An internal cooling fan operates when overheated. Please wait for a while before turning off Power Switch(1).

Use of PH2X Handpieces

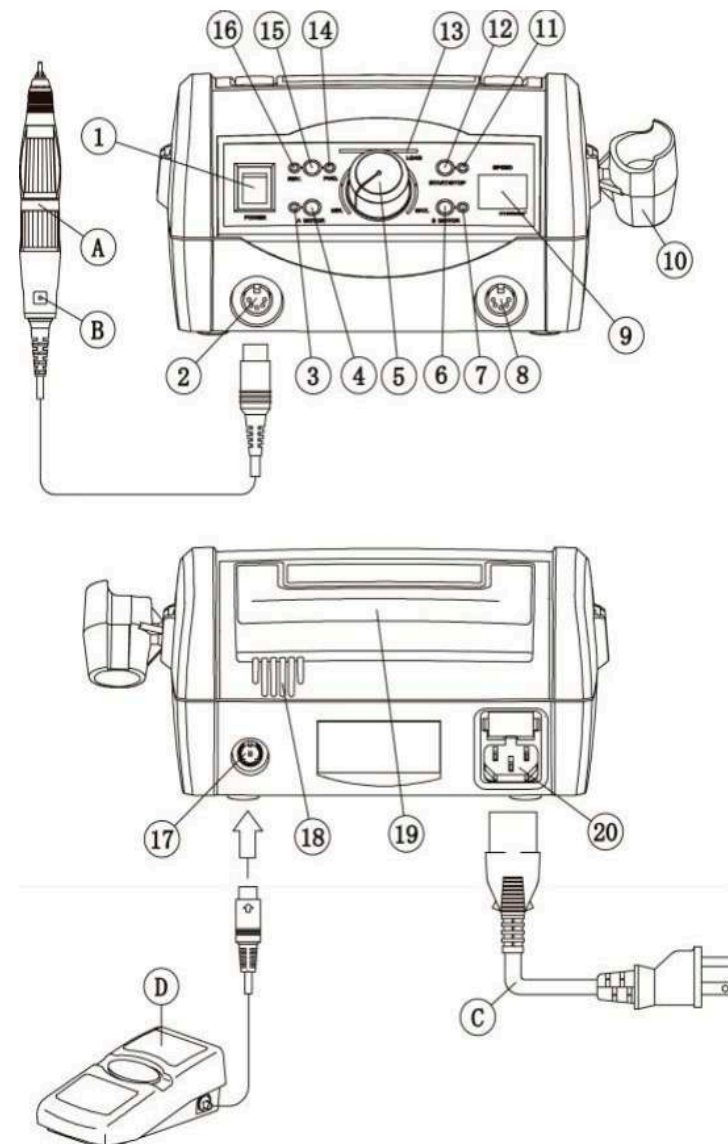
PH2X Handpieces with a 3-pin plug, shown below, can connect directly to PH3 Controller.



Parts Names and Connections

When ordering spare parts, always specify part# (or item# if applicable) and description.

Part#	Description
1	Power Switch
2	Station A Output Jack
3	Station A Selection Lamp
4	Station A Selection Button
5	Speed Control Knob
6	Station B Selection Button
7	Station B Selection Lamp
8	Station B Output Jack
9	Rotational Speed Display
10	Handpiece Holder
11	Start/Stop Lamp
12	Start/Stop Button
13	Load Indicator
14	Forward Lamp
15	Rotation Selection Button
16	Reverse Lamp
17	Variable Foot Controller Jack
18	Exhaust Port
19	Handle
20	Inlet with Fuse Holder
A	Handpiece
B	Hand Button
C	Power Cord
D	VC90 Variable Foot Controller



Connection

1. Ensure that Power Switch(1) is turned off before connecting Power Cord(C) to Inlet (20) and to the power supply.
2. Connect the Handpiece to Station A(2) or Station B(8) Output Jack.
3. If required, connect the Variable Foot Controller VC90(D) to Variable Foot Controller Jack(17).

Operation

1. Set the Speed Control Knob(5) at [MIN.] position.
2. Turn on the Power Switch(1), the lamps for forward and reverse as well as the output jack will come on. If the Handpiece is connected with the selected output jack, the set speed is displayed in the Rotational Speed Display(9).
3. Push the Rotation Selection Button(15) momentarily to set directional rotation forward or reverse.
4. The output jack can be changed with Station A Selection Button(4) or Station B Selection Button(6).
5. Set the rotation speed beforehand with the Speed Control Knob(5).
6. When Start/Stop Button(12) or hand Button(B) is pushed, the Handpiece rotates.
7. When Start/Stop Button(12) or hand Button(B) is pushed again, the Handpiece stops.

Operation with Variable Foot Controller

You can use the Variable Foot Controller VC90(D) to vary the speed of the Handpiece, by adjusting the pressure applied to the Variable Foot Controller. In this case, the maximum speed is limited by the Speed Control Knob(5).

Auto cruise function

The rotational speed can be maintained by pushing the Start/Stop Button(12) or Hand Button(B) to fix the speed while using the Foot Controller. In that case, Start/Stop Lamp(11) blinks. Please push the Start/Stop Button(12) again, or Hand Button(B) to release it or step on the pedal once.

Low-speed rotation

If after not using for some time the Handpiece won't operate at low-speed, run at high-speed for ten seconds. This will remove oxides that may have formed on the motor commutator.

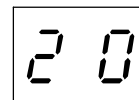
Load Indicator

- Load Indicator(13) is composed of 8 lamps. The number of lighting increases as the load of the motor rises.
- Make sure the Load Indicator(13) lights are green when operating the device. Working in high pressure (Red) for a long time will cause the Circuit Breaker to shut off.
- While handpiece is rotating without any pressure, if two green lamps or more of the Load Indicator(13) light up, there is a possibility that some part of handpiece is defective. Please contact us if this occurs.

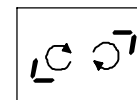
Rotational Speed Display

Rotational Speed Display(9) is displayed as follows:

1. When the handpiece is on

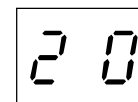


Rotational Speed
(2 digits × 1000rpm)



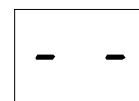
When PH2X handpieces
are connected

2. When the handpiece is turned off

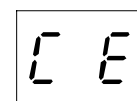


Setting of Rotational Speed
(2 digits × 1000rpm)

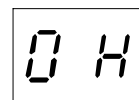
3. Error Codes



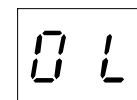
Handpiece disconnected



CE (Coil Error)
Disconnection of Handpiece
power line or coil



OH (Over Heat)
Controller Over Heat

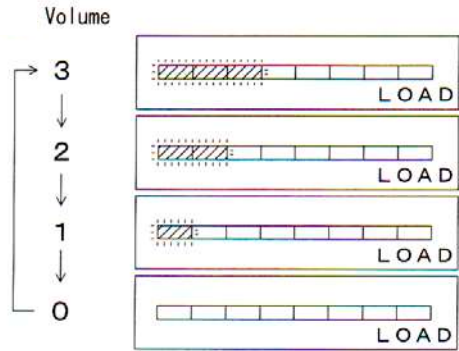


OL (Over Load)
Circuit Breaker operated

Setting and Confirmation

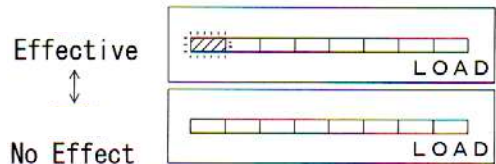
Volume Setting

When you turn on Power Switch(1) while pushing Start/Stop Button(12), [SP] is displayed and Load Indicator(13) will light according to present setting. The volume can be set as LED of the Load Indicator(13) repeats 3→2→1→ all turning off whenever Start/Stop Button(12) is pushed. After setting it, it becomes usual operation by turning on Power Switch(1) again.



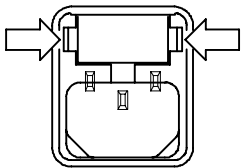
Hand Button Setting

When the operation with Hand Button(B) is unnecessary, Hand Button(B) can be invalidated. When you turn on Power Switch(1) while pushing Station B Selection Button(6), [HS] is displayed and Load Indicator(13) will light according to a present setting. Effective and No Effect in Hand Button(B) are switched as LED of Load Indicator(13) is lit and turned off. After setting it, it becomes usual operation by turning on Power Switch(1) again.



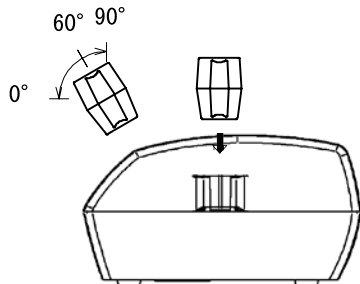
How To Change Fuses

There are fuses in Inlet with Fuseholder(20). Fuses can be changed by removing a lock on both sides, and pulling out the fuse holder. Please use correct fuse according to the plug.



Handpiece Holder Adjustment

Handpiece Holder(10) is attachable with angle 60° or 90°.

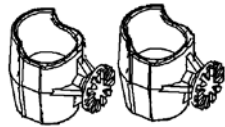


Specifications

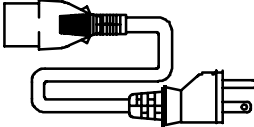
When ordering spare parts, always specify part# (or item# if applicable) and description.

Type	PH3 Controller	
Rated Input	AC 120V 60Hz, 30W	AC 220V - AC240V 50Hz, 30W
Dimensions	W 200 x D 180 x H 100mm	
Weight	2.3kg	

Standard Accessories



Handpiece Holder 2 piece



Power Cord 1 Piece
(100V AC17-002)
(120V AC17-100)
(230V AC17-200)

Fuse 2pcs.
(100V • 120V • UF-2A-1)
(230V UF-0.8A-1)



Power Hand 3 controllers and handpieces combine to create the most versatile finishing system in the industry, offering rotary, profiling and belt sanding action.

Power Hand 3 component selection:

- PH3 controller
- Six motors (three high torque, two standard, and one high speed)
- A selection of 8 heads
- Two reciprocating profilers
- One side-to-side profiler
- Belt Sander



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