

# Polymerisation Unit **Polyquick**



**USER MANUAL**

**Dear customer,**

Thank you for choosing a product from the Wassermann range. Wassermann Dental-Maschinen incorporates the highest standards of quality and the latest technology. In order to enjoy maximum performance and years of trouble-free operation, please read this service manual carefully before you connect this device and start work, and operate the device according to the recommended guidelines. The operation safety and the functionality of this device can only be guaranteed if you follow both the general safety guidelines and the applying laws to prevent accidents as well as the precautions given in this user manual. We are not liable for any damages which occur due to inappropriate usage or faulty operation of this device.



Make sure that anyone using this device has read and understood this user manual.

Keep this user manual in a safe place where it can be referred to as required at any time.



The unit complies with the relevant EU guidelines.



The unit is subject to the EU guidelines 2012/19/EU (WEEE Directive).

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## 1 Features

Depending on your requirements, you can set the polymerisation time manually to the maximum or automatically to a shorter period. All functions are available in both cases. The polymerisation time is adjustable up to 59 hours and 40 minutes. The maximum pressure is 6 bar, and this is maintained by a non-return valve. The required polymerisation temperature can be set in 5 stages up to 95°C. The heater cuts off automatically when the set temperature is reached, so overheating is not possible. The unit has a dry-run safety device, which prevents it overheating, and a door safety switch, which releases the compressed air only when the door is fully closed.

- even polymerisation of up to 3 flasks in the flask holder or 2 cast resin flasks or bottom feed mount and/or 6 settings
- fast emptying of hot water using compressed air and needle valve
- manual or timer-controlled operation according to requirements
- overpressure valve to protect against operational failures (7 bar)
- energy-saving holder thermal insulation
- durable, robust metal housing, plastic-powder-coated
- easy to use, very low maintenance

## 2 Safety symbols used in this manual



### **Warning!**

This is a warning of risk situations and dangers.

Failure to observe this warning could be life-threatening. These warnings has to be observed.



### **Information!**

This symbol draws your attention to specific features that has to be observed.

### 3 Safety guidelines

Configuring and operating this equipment requires **precise knowledge** and **observance** of the instructions in this **user manual**. The equipment is designed only for its intended application.



**WARNING:**

Servicing and repairs should be carried out only by authorised specialists.  
Disconnect the power plug before starting any maintenance work.



Make sure that the equipment is connected to the correct power source.



The safety valve on the pressure vessel opens automatically if the operating pressure exceeds 7 bar.

The pressure is switched on only after the door is fully closed, thanks to a safety contact and an orange monitor light.

Dry-run protection switches off at 112°C (brown knob, left side of unit)

**Warning:** Scalding risk with hot polymerisation.

Open the lid slowly!

## 4 Responsibility for operation or damage

The responsibility for operating the device lies exclusively with the owner or user if said device is incorrectly serviced, maintained or altered by persons not employed by an authorised dealer or if the device is used in a manner contrary to its specified purpose.

The unit has to be maintained and operated in accordance with this user manual.

Wassermann Dental-Maschinen GmbH is not responsible for damage arising from the **nonobservance** of these instructions.

Warranty and responsibility provisions contained in the sales and supply conditions of Wassermann Dental-Maschinen GmbH are not extended by these instructions.

## 5 Application

The Polyquick is a pressure polymerisation unit for the hot and cold polymerisation of plastics.

It can be set to a maximum temperature of 95°C and a maximum polymerisation pressure of 6 bar. For automatic operation, you can select a polymerisation time between 2 minutes and 59 hours 40 minutes; in manual mode, the polymerisation time is the maximum time.

Only use the device for this type of application.

## 6 Before Starting

### 6.1 Transport

Before transporting the unit, ensure that it has been unplugged from the power socket. Make sure that it is packed correctly in order to avoid accidental damage.



Be sure to check for any transport damage when unpacking the goods. Note down any damage if found.

## 6.2 Installation

Open the box, remove the packing materials, and carefully lift out the device and accessories. Check the included accessories.

The device has to stand horizontally on a steady and even surface



Install the device in a place where it will not block the working area and the functionality (take the dimensions into account).



Do not install the unit outdoors or in places without proper ventilation.

Before start-up, be sure the device reaches room temperature.

## 6.3 Storage

The unit location is very important when it comes to workplace safety, even if it is only to be set up there for a short period. The room should be dry, well ventilated and vibration-free. An even temperature and wooden supports also help. The unit should not be stored or set up outdoors. If the unit is to be stored for an extended period, protect it from moisture and dust.

## 7 Installation/ Start-up



### Important!

**Never** operate the unit without water as the heater climbs immediately to 50°C as soon as the power comes on.



**Before** starting the unit, connect up the following:

- Connect up a compressed-air supply of **at least 3.5 bar**. If using a long hose, make sure its ID is at least 6 mm. Provide each compressed-air hose with a maintenance unit and use a regulator to set the pressure to a constant level.

**Finally**, insert the power plug into the socket, making sure that the mains and the unit operate on the same voltage.

### 7.1 Setting the Correct Pressure

Before filling the container, you should remove the accessory and set the correct polymerisation pressure. To do so:

1. Turn on the main switch (green rocker switch).
2. Close the cover and check the door contact (6) control light is on.
3. Turn off the heater switch (1); the red LED in the switch will go out.
4. Switch on the pressure (2) and the Start/Stop switch (10) containing the red LED.  
**The pressure is preset to 6 bar at the factory.**
5. If the pressure is too **low (min. 3.5 bar)**, increase it using the black control at the rear of the unit (max. 6 bar). You have to pull the control out to change it and then push it in again.
6. If the pressure is too **high**, turn off pressure switch (2) and let the pressure reduce. The pressure regulator at the rear of the unit must be turned several times in the “minus“ direction. Then, put the chamber under pressure. The desired pressure, (**max. 6 bar**), is set by turning the regulator in the “plus“ direction.
7. Use the Start/Stop switch (10) to turn the unit off.

## 8 Operation

### 8.1 General Operating Instructions

All instructions for using the unit, whether in verbal or written form, are based on our own experience and experimentation and can only be regarded as guidelines.

### 8.2 Conversion table °C - °F

$$t_{\text{Celsius}} = (T_{\text{F}} - 32) / 1,8$$

100	°C	=	212	°F
95	°C	=	203	°F
90	°C	=	194	°F
85	°C	=	185	°F
80	°C	=	176	°F
75	°C	=	167	°F
70	°C	=	158	°F
65	°C	=	149	°F
60	°C	=	140	°F

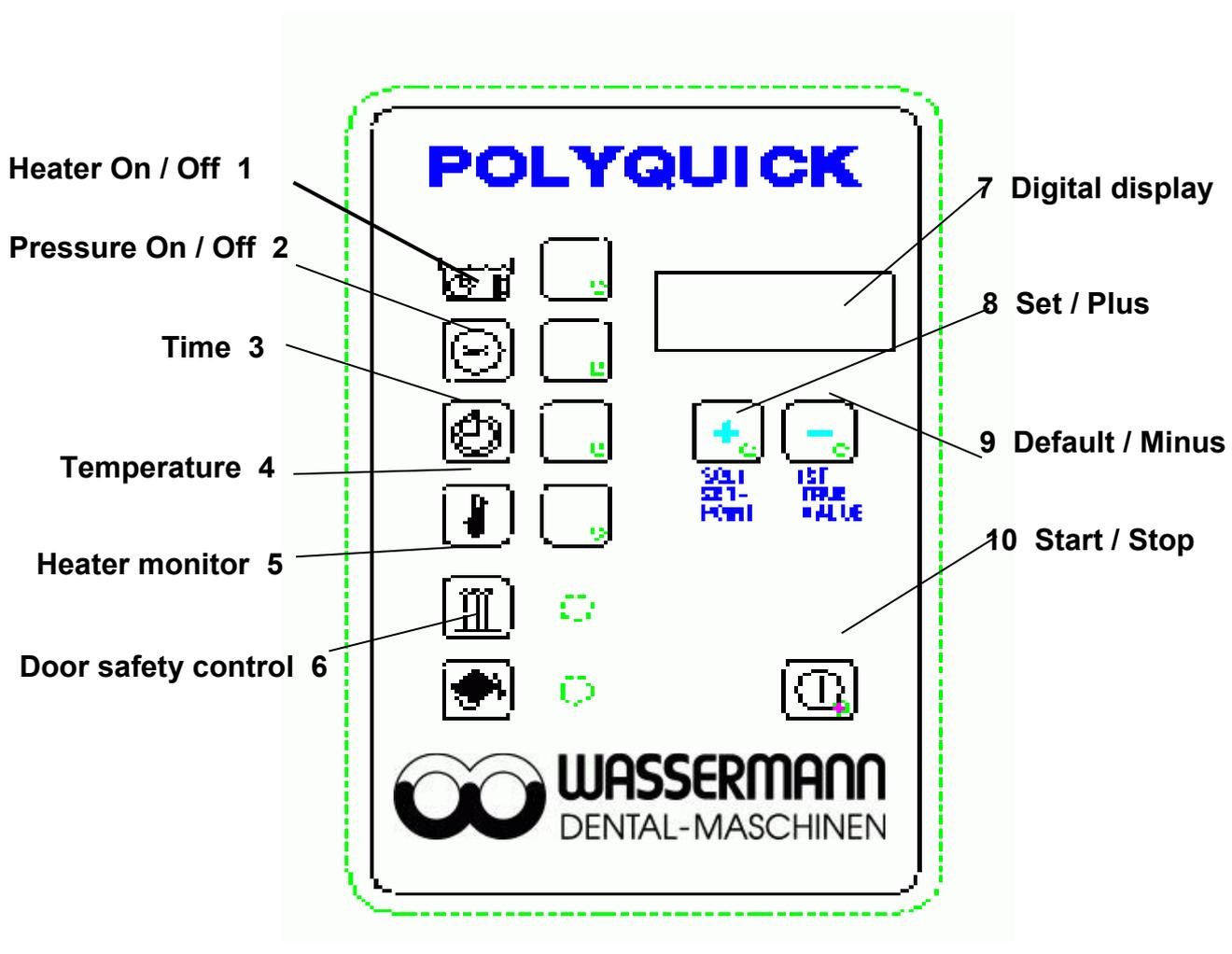


**Factory settings:**

- Heating      50°C
- Time         10 min.
- Pressure     6 bar

Turning on the main switch sets the pre-programmed heater temperature to 50°C. This temperature is independent of any previously set temperature. When the set temperature button (8) is pressed, the heater temperature is overridden and the unit increases to the last set temperature.

Before starting the timer, allow a warm-up period of about 30 minutes.



### 8.3 Filling and Switching On

1. Open the lid.
2. Insert the filled container, fill with water until all polymerisation components are covered (max. up to the indent in the container), then close the lid fully.
3. Turn on the main switch; the unit heats **automatically** to 50°C.

### 8.4 Programming

#### Time:

- Press Time (3) and Set / + (8).
- Keep Time (3) pressed and set the value using Set / + (8) and Default / - (9).

#### Temperature:

1. Press Temperature (4) and Set / + (8).
- Keep Temperature (4) pressed and set the value using Set / + (8) and Default / - (9).

**The values are stored automatically when you start the program with Start/Stop (10).**



#### **Time ranges:**

**up to 30 min = 2nd step**  
**up to 120 min = 5th step**  
**above 120 min = 20th step**

#### **Temperature ranges:**

**from 0°C to 95°C in 5 steps**  
**from 95°C the program reverts to 20°C.**

## 8.5 Operation:

The polymerisation period must be set and either hot or cold and/or pressure polymerisation chosen.

### 8.5.1 Automatic Operation:

- Set the program to the desired polymerisation time and temperature (see 6.2).
- For hot polymerisation, press Heater (1); the yellow LED (lower) comes on while the unit heats up.
- For pressure polymerisation, press Pressure (2).
- After the unit has reached the selected temperature, press Start/Stop (10) to start the program.
- When the program has finished, you will hear a 10-second tone to tell you that the unit must be switched off by pressing Start/Stop (10).
- **The pressure is released when you press Start/Stop (10), but Heater (1) must be pressed to turn off the heating.**
- **The lid can only be opened when the pressure gauge reads 0.**



**Warning:**            **Scalding risk with hot polymerisation.**  
                                 **Open the lid slowly!**

### 8.5.2 Manual Operation:

- Set the program to max. time and the desired temperature (see 6.2).
- For hot polymerisation, press Heater (1); the yellow LED (lower) comes on while the unit heats up.
- For pressure polymerisation, press Pressure (2).
- After the unit has reached the selected temperature, press Start/Stop (10) to start the program.
- Polymerisation can be stopped at any time by pressing Start/Stop (10). There is no audible signal.
- **The pressure is released when you press Start/Stop (10), but Heater (1) must be pressed to turn off the heating.**
- **The lid can only be opened when the pressure gauge reads 0.**



**Warning: Scalding risk with hot polymerisation.**

**Open the lid slowly!**



**If the pressure in the compressed-air supply line drops during the process, a non-return valve will maintain the current pressure.**



**The pressure chamber can only be opened once the pressure has dropped *completely* to 0.**



**The heater has a temperature safety device, which switches the heater off automatically at about 112°C. It can only be started again once the unit has cooled down. To do so, press the reddish-brown rubber knob on the left-hand side of the housing – you'll hear it click into place. The program contains a safety command inserted at the factory, which switches the heater off automatically when the temperature exceeds 99°C.**

## 8.6 Draining the Water

**Warning:** Before you drain the water, check that the drain hose ends in a bucket or washbasin. For your own safety, it should be fixed in place.



**Drain the water carefully as it can be very hot!**

### **Procedure:**

- Close the lid completely; LED (6) must go out.
- Turn on main switch (green) and turn off Heater (1).
- Pressurise the chamber by pressing Pressure (2) and Start/Stop (10).
- Open the drain valve (black knob, lower left side) **slowly**.
- After draining the water, press Start/Stop (10) and close the drain valve.
- Turn the mains switch to "0"

## 9 Troubleshooting

<b>Fault</b>	<b>Cause</b>	<b>Solution</b>
Pressure does not increase in chamber	Lid seal O-ring faulty	Check O-ring and replace if necessary
	Pressure regulator set to 0 (pressure gauge).	Check pressure and adjust if necessary
	Door not fully closed	Close door against safety contact or contact faulty
Chamber does not get hot	Heater not switched on	Switch heater on
	Temperature monitor switched off or faulty	Press in safety knob (left side of unit) and/or replace knob Repair (Service Workshop)
	Faulty heater	Repair (Service Workshop)
Display blank	Temperature monitor off or faulty	Press in safety knob (left side of unit) and/or replace knob Repair (Service Workshop)
Unit does nothing	Blown fuse	Replace fuse at rear of unit



If the above recommendations do not solve the problem, contact your dental depot or our service department.

## 10 Care and Maintenance

### 10.1 Cleaning



Disconnect the power plug before starting any maintenance work.

The identification plate has always to be kept in easily legible condition and has not to be removed.



Remove external dirt from time to time with some form of cold cleaner.

Use only cold cleaners to avoid damaging the paintwork or removing the lettering.

The unit should be rinsed out at least **once per week** to ensure problem-free operation.

**After** rinsing, remove and clean the sieve in the base of the chamber.

The equipment should be cleaned at regular intervals to ensure trouble-free operation. It requires only normal cleaning (sponge, damp cloth, mild detergent) and no further chemical additives.

### 10.2 Maintenance

Check the door seal (Item no. 380032) regularly for damage. To do so, remove the ring (red silicone ring) from its groove using a round-ended pair of tweezers. The seal groove **must** always be clean.

The seal **must** be inserted in the groove using Vaseline or oil.

The door safety switch should be checked by opening and closing the door several times; you should hear a slight click each time. The seal should be replaced every 18 months.

### 10.3 Repairs



Servicing or repairs to the unit has only to be carried out by qualified technicians.

Only original spare parts are to be used. Responsibility for the product is voided if unauthorised persons alter it or if inappropriate components are installed.

## 10.4 Spare Parts

If necessary please contact our service hotline phone.

## 10.5 Service Hotline 0049 (0)40 730 926 -20/ -24

## 10.6 Scope of Delivery/ Accessories

Included parts	Item no.
Flask bracket support	170508
Flask basket	170517
PVC hose Ø 8 x 6 textile (blue ) 2 m	320026
PVC hose Ø 6 x 3 ( 1/4“ ) textile 2 m	320038

Accessories/ Spare parts	Item no.
PVC hose Ø 8 x 6 textile (blue ) - per meter	320026
PVC hose Ø 6 x 3 ( 1/4“ ) textile - per meter	320038

## 10.7 Warranty



The warranty period for our equipment is 12 months. If faults occur within the warranty period, contact your dental depot or get in touch directly with our service department.

Your equipment should only be operated in perfect condition. If faults occur which could harm operators or third parties, the unit should not be used until it has been fixed.

This warranty does not cover damage caused by improper use, external mechanical causes, transport damage or interference with the unit by unauthorized persons.

## 11 Technical Data

<b>Polyquick</b>	<b>Item no.: 170999</b>
Voltage*	220–240 V / 50/60 Hz
Power consumption	4.2 A
Output	1000 W
W x H x D	340 x 435 x 355 mm
Weight	21.1 kg
Compressed air connection	min. 4 bar
Operating pressure	max. 6 bar
Pressure chamber	Ø 150 mm, D 285 mm

\*Other voltages on request.

The noise level of the unit amounts to  $\leq 70$  dB (A).



Technical changes reserved.

## 12 Disposing of the Unit

The unit has to be disposed by an authorized recycling operation. The selected company has to be informed of all possibly health-hazardous residues in the unit.

### 12.1 Information on Disposal for Countries within the EU



To conserve and protect the environment, prevent environmental pollution and improve the recycling of raw materials, the European Commission adopted a directive that requires the manufacturer to accept the return of electrical and electronic units for proper disposal or recycling.

Within the European Union units with this symbol should not therefore be disposed of in unsorted domestic waste.

For more information regarding proper disposal please apply at your local authority.

**13 EU Declaration of Conformity**

in accordance with 2014/35/EU (Low Voltage Directive) and 2014/30/EU (Electromagnetic Compatibility Directive) and 2006/42/EC (Machinery Directive) and 2011/65/EU (RoHS Directive) and 2014/68/EU (Pressure Units Directive)

Manufacturer: **W A S S E R M A N N**      Product description: Polymerisation  
Dental-Maschinen GmbH      Unit for dental  
Rudorffweg 15-17      applications  
21031 Hamburg  
Germany

Model: Polyquick      Item no. 170999  
Applicable standards: DIN EN 61010-1  
DIN EN 61000-6-3  
DIN EN 61000-6-1  
DIN 45635-1  
DIN EN 60335-1

Hiermit wird bestätigt, dass die oben bezeichnete Maschine den genannten EU-Richtlinien entspricht. Diese Erklärung wird ungültig, falls die Maschine ohne unsere Zustimmung verändert wird.

This is to confirm that the above mentioned machine complies with the described EU guidelines. This declaration becomes invalid if the machine is modified without our approval.

Cette machine est conforme aux normes en vigueur d'Union européenne. Cet avis est nul et non avenant si cette machine est modifiée sans notre accord.

Esta máquina, anteriormente mencionada, cumple con los límites requeridos por el reglamento UE. Ahora bien, esta declaración quedará invalidada en caso de realizar modificaciones al aparato sin nuestra aprobación.

Hiermee wordt bevestigd dat bovengenoemde machine voldoet aan de voorgeschreven EU normen. Deze verklaring verliest geldigheid als er zonder onze uitdrukkelijke toestemming wijzigingen aan de machine worden aangebracht.

Place, date: Hamburg, 2017-07-10

Company stamp:



Signature : \_\_\_\_\_  
Wilfried Wassermann  
(Managing Director)



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