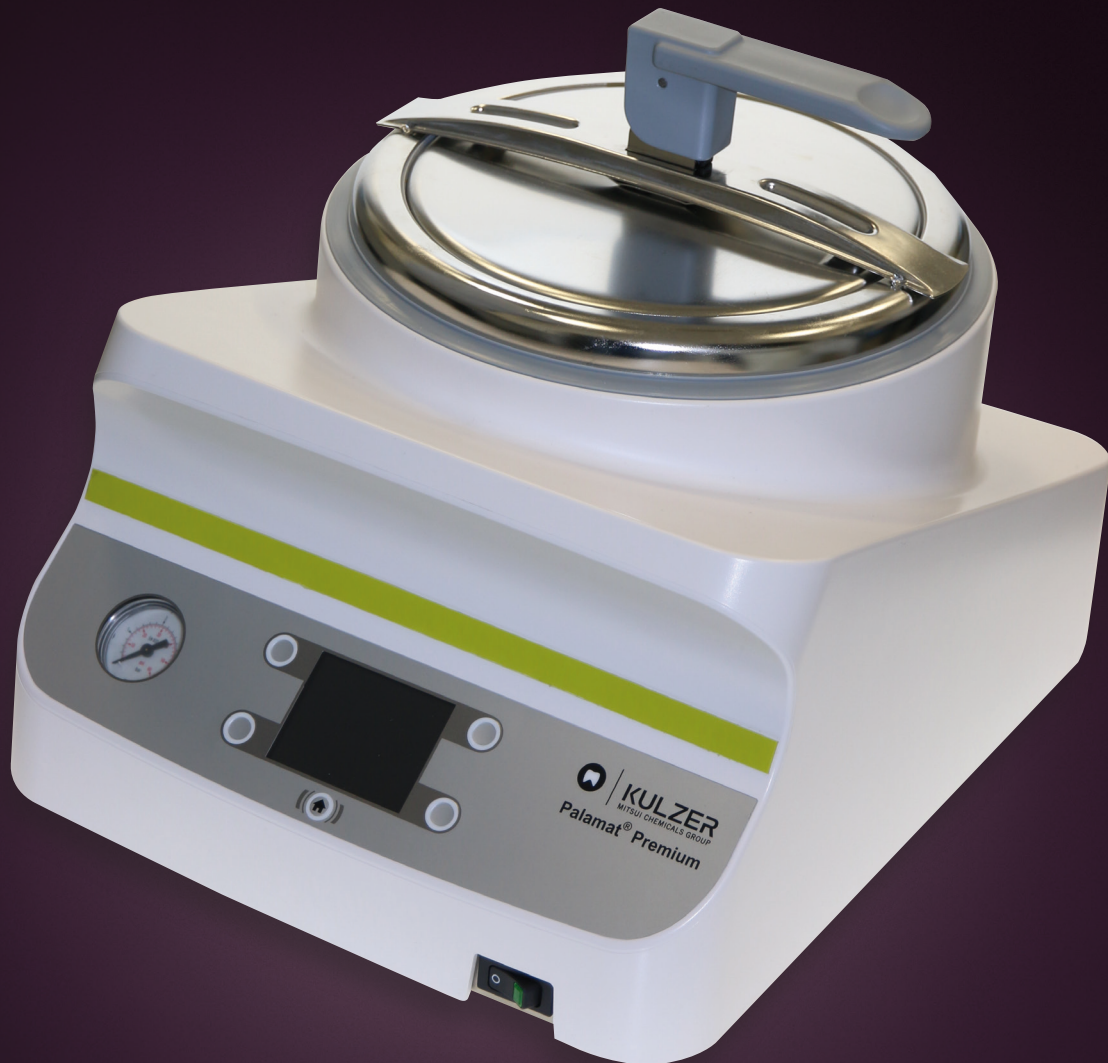




**KULZER**  
MITSUI CHEMICALS GROUP

# Palamat® Premium



DE

GB

FR

ES

IT

NL

- DE** Betriebsanleitung
- GB** Operating Instruction
- FR** Mode d'emploi
- ES** Instrucciones de uso
- IT** Istruzioni per l'uso
- NL** Gebruiksaanwijzing

**PALA**®  
Das ist Zahntechnik.

# Operating Instructions

## Polymerization unit for hot- and cold-curing resins

### Table of contents

<b>1</b>	<b>Scope of validity</b> .....	<b>2</b>
1.1	General .....	2
1.2	Designation and type of the unit .....	2
1.3	EC – Declaration of Conformity .....	2
<b>2</b>	<b>Information on safe operation</b> .....	<b>3</b>
2.1	Explanation of symbols .....	3
2.2	Transport damage .....	3
2.3	Operator's obligations .....	3
2.4	Unit book .....	3
2.5	Safety instructions .....	4
<b>3</b>	<b>Use in accordance with specifications</b> .....	<b>4</b>
3.1	Working rules .....	4
<b>4</b>	<b>Scope of delivery</b> .....	<b>5</b>
<b>5</b>	<b>Description of the unit</b> .....	<b>5</b>
<b>6</b>	<b>Setting up, installation and putting into operation</b> .....	<b>6</b>
<b>7</b>	<b>Working with the Palamat Premium</b> .....	<b>7</b>
7.1	Pressure pot .....	7
7.2	Filling with water .....	7
7.2.1	Overtemperature protection .....	8
7.3	Polymerization .....	8
7.3.1	Edit program .....	8
7.3.2	Display settings .....	9
7.3.3	Starting, pausing and ending a process .....	10
7.4	Draining the contaminated water .....	10
7.5	Putting out of operation .....	10
7.5.1	Disposal of old equipment according to WEEE .....	10
<b>8</b>	<b>Maintenance</b> .....	<b>11</b>
<b>9</b>	<b>Technical data</b> .....	<b>11</b>
<b>10</b>	<b>Information on malfunctions</b> .....	<b>11</b>
<b>11</b>	<b>Service</b> .....	<b>12</b>
<b>12</b>	<b>Document history</b> .....	<b>12</b>

# 1 Scope of validity

## 1.1 General

Palamat® Premium is a registered trademark of Kulzer.  
Name and address of the manufacturer: Kulzer GmbH  
Leipziger Straße 2  
63450 Hanau / Germany

These operating instructions apply to:

Order no.	Type Features	Edition
66057661 66057662 66057663	Palamat Premium 100 V Palamat Premium 120 V Palamat Premium 230 / 240 V	2021 / 01 99001462 / 14




## 1.2 Designation and type of the unit

Designation of the machine	Type of machine	Valid from Serial no.
Polymerization unit for cold- and hot-curing resins	Palamat Premium	2021-03-0606

## 1.3 EC – Declaration of Conformity

We, Kulzer GmbH, Leipziger Straße 2, 63450 Hanau (Germany), hereby declare that the design, structure and version introduced to the market of the unit described below correspond to the relevant safety and health requirements of the EU Directive.

This declaration shall become invalid in the event of an alteration made to the unit without our prior authorisation.









 <b>Konformitätserklärung</b> <b>Declaration of Conformity</b>	
Hersteller/Manufacturer: Kulzer GmbH Leipziger Straße 2 63450 Hanau / Germany	
Hiermit wird bestätigt, dass das Gerät It is herewith confirmed that the unit	
<b>Palamat Premium</b> Druckpolymerisationsgerät zur Herstellung von Prothesen Pressure pot device for the fabrication of dentures	
den grundlegenden Anforderungen entspricht / complies with essential requirements of	
<ul style="list-style-type: none"><li>• Niederspannungsrichtlinie 2014/35/EU • low-tension Directive 2014/35/EU</li><li>• Richtlinie über elektromagnetische Verträglichkeit (EMV) 2014/30/EU • Directive concerning electromagnetic compatibility (EMC) 2014/30/EU</li></ul>	
Angewandte Normen / Standards applied:	
DIN EN 61010-1:2020-03 entspricht/complies with EN 61010-1:2020-03 und/and IEC 61010-1:2010 AMD1:2016/COR1:2019 DIN EN 61326-01:2013-07 entspricht/complies with EN 61326:2013-07 und/and IEC 61326-1:2020-08 DIN EN 61010-2-010:05-2015 entspricht/complies with EN 61010-2-010:2015-05 und/and IEC 61010-2-010:2014	
<b>Nachfolgende Person ist bevollmächtigt die relevanten technischen Unterlagen zusammenzustellen:</b> Following person is authorized to compile all relevant technical documentation:	
Name: Dr. Eva-Regina Trösken Anschrift: Leipziger Straße 2 63450 Hanau Deutschland	
Hanau, 4.11.2020 Ort und Datum Place and Date	 i.V. Dr. Eva-Regina Trösken Global Regulatory Compliance
	 i.V. Sascha Simon Global quality management
Konformitätserklärung Palamat Premium .doc    Version 1    Seite 1 von 1	

# Operating Instructions

## Polymerization unit for hot- and cold-curing resins

## 2 Information on safe operation

### 2.1 Explanation of symbols

Symbol	Text	Explanation
	<b>Attention!</b>	Safety-relevant chapters and sections within these operating instructions.
	<b>Note!</b>	Information within the operating instructions on the optimum use of the unit.
	<b>Hot surface!</b>	Hot surface. Risk of getting burned.
 3 ... 10 bars or designation LUFT / AIR	<b>Compressed air supply</b>	Connection – operating pressure 3 to 10 bars.
 or	<b>Pressure release</b>	Hot vapor. Risk of scalding.
 or designation WASSER / WATER	<b>Water drainage</b>	Water drainage for emptying the polymerization pot.
	<b>WEEE</b>	Disposal of old equipment according to WEEE Electrical and Electronic Equipment Act (ElektroG).
		Registration certificate according to the ministry of health of the Russian federation.

### 2.2 Transport damage



Caution

The unit is sensitive to shock, because it contains electrical components. Particular care must therefore be taken during transportation as well as storage. The equipment shipped by Kulzer was checked thoroughly prior to shipment. The unit is correctly protected and packed when delivered.

Check the unit for damage after receiving it. If it is damaged, report this to the transportation company within 24 hours of delivery. Under no circumstances, install or work with a damaged unit.

### 2.3 Operator's obligations

In addition to complying with the statutory regulations specified by the manufacturer, the operator must ensure the statutory obligations are observed and implemented in the workplace, i.e. he must train his personnel and comply with industrial safety legislation and any other regulations or laws in force.

For working on and with the machine, the operator must draw up written instructions in understandable form and give these to his employees in their own language. These instructions must be based on the operating manual and written in light of the work to be performed.

### 2.4 Unit book

We recommend to keep a unit book. All tests and essential works (e.g. repair work, modifications) must be documented in this book.

## 2.5 Safety instructions

The effectiveness of the safety instructions with regard to personnel protection, handling the unit and handling the processed product is to a large degree dependent on the behaviour of the staff working with the equipment.



**Caution!**

**Prior to initial operation, carefully read through these Operating Instructions and observe the information in order to avoid errors and subsequent damage, particularly damage to health.**

**In addition to the instructions in this operating manual, comply with the national laws, regulations, and directives in your country when setting up and operating the unit.**



**Hot surface!**

**The metal surface of the pressure pot may heat up considerably similar to a cooking pot. Avoid touching the surface.**



**Caution!**

**Power cable and plug must be checked for damage prior to operation. If any damage is found, the unit must not be connected to the mains.**

Work on electronic equipment in the unit must be carried out by **Kulzer, Kulzer service partners or qualified, specialist personnel only** and when the equipment is in a safe status (de-energised).

Only use authorised original spare parts and accessories. Avoid other parts as they hide unknown risks.

The operability and safety of the unit is only guaranteed if the necessary tests, maintenance and repair work is carried out by **Kulzer, Kulzer service partners or trained, specialist personnel**.

For possible damage coming from a fault / malfunction of the unit due to improper repair, which was not carried out by **Kulzer service partners or by personnel trained by us** or in cases where original spare / accessory parts were not used during a part replacement, Kulzer GmbH is **not liable**.



**Caution!**

**Be careful when filling and emptying the pot!**

**Risk of short circuit / electric shock owing to water which has penetrated into the unit!**

**Do not spill water! If required dry the housing with a cloth!**

## 3 Use in accordance with specifications

The Palamat Premium polymerization unit is a laboratory unit for polymerizing cold- and hot-curing resins for dental applications.

The functional design of the unit is specifically matched with processing methods of cold- and hot-curing resins.

The polymerization is performed at an operating pressure of 2 bars which is calibrated by an integrated pressure reduction valve. A pressure gauge on the operating panel shows the nominal pressure after pressurization. At a pressure of more than 2.8 bars within the pressure pot the safety valve opens automatically.

### 3.1 Working rules



**Attention!**

**The following must be observed when working with the unit:**

- The unit must not be used to heat up or prepare food.
- Do not process or use readily flammable materials, liquids or gases.
- Do not use any material that causes or promotes the formation of explosive mixtures.
- Do not use materials and/or procedures that cause an uncontrolled volume expansion in the pressure pot.



**Attention!**

**Distilled, deionized water or other liquids may not be used!**

- Use only clean tap water for processing.



**Caution:**

**The device is not intended for use by blind persons due to the optical nature of its operating functions as well as its warning and error messages.**

# Operating Instructions

## Polymerization unit for hot- and cold-curing resins

### 4 Scope of delivery

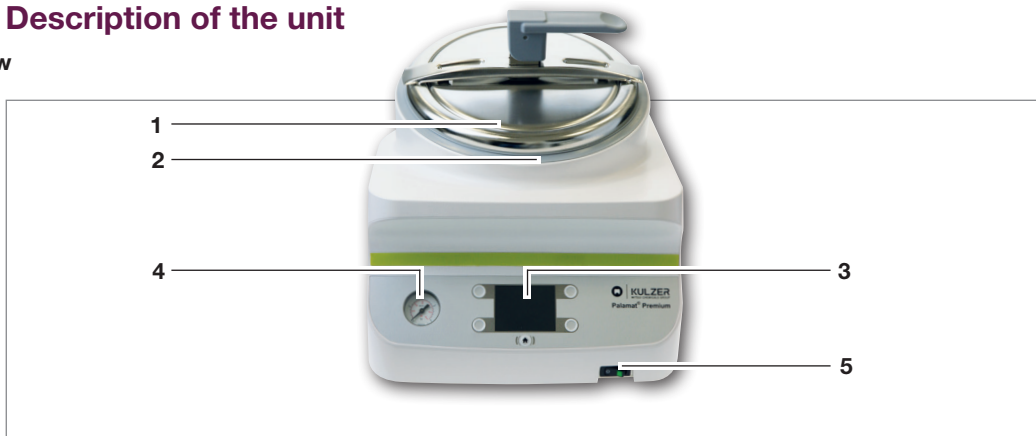
- 1 x unit, mains plug, operating instructions
- 1 x Compressed air hose, nozzle, hose clip

#### Available as special accessories:

- 66081715 Water drain hose, transparent
- 66056911 Flask basket

### 5 Description of the unit

#### Front view



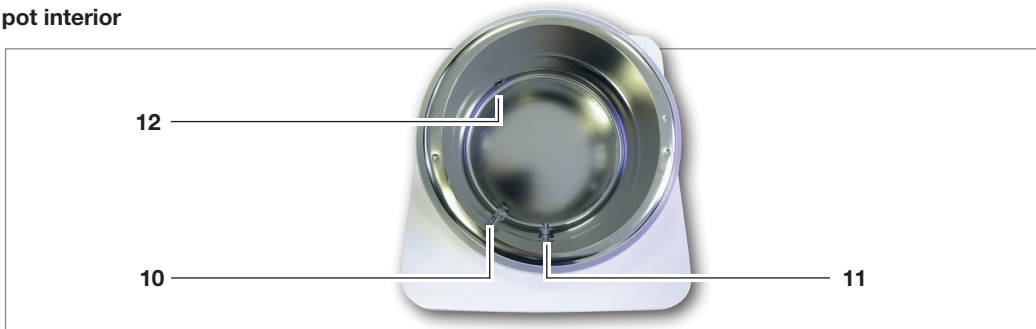
- 1) Cover
- 2) Pressure Pot
- 3) TFT-Display
- 4) Pressure Gauge
- 5) (On/Off) power switch with LED indicator

#### Supply connections – rear



- 6) Mains connection with fuse holder
- 7) Compressed air connection
- 8) Water drain valve & connection for 8 mm water drain hose
- 9) Pressure relief with silencer

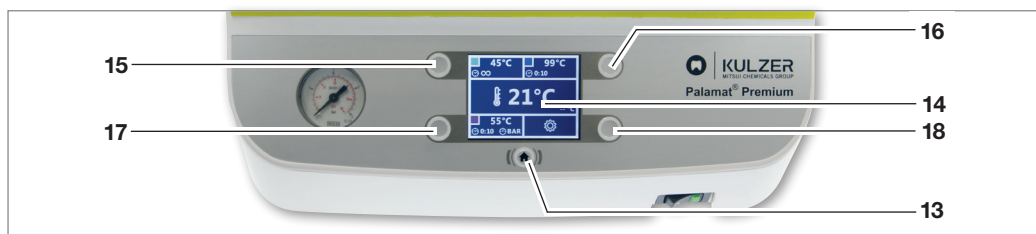
#### Pressure pot interior



- 10) Air inlet
- 11) Temperature sensor
- 12) Water outlet



## Detailed view – operating panel

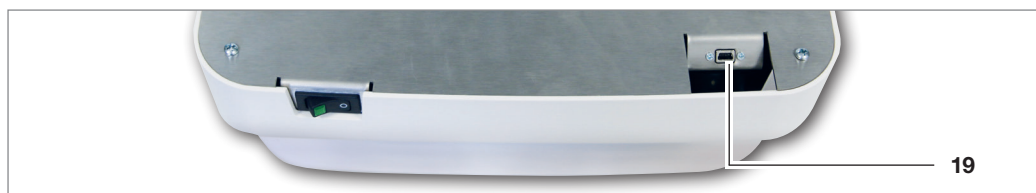


- 13) Home button
- 14) ACTUAL temperature display
- 15–18) Interactive push buttons

GB

- 6 -

## Bottom



- 19) Micro USB connection

## 6 Setting up, installation and putting into operation

The instrument is to be mounted on a solid, non combustibile surface (e.g. laboratory bench (H x W x D): 450 x 315 x 550 mm) in such a manner as to achieve a secure horizontal position.

### Ambient conditions:

- Temperature range 0°C (32°F) to 40°C (104°F)
- Relative humidity between 30% and 75%
- Mains voltage  $\pm 10\%$  from the nominal value
- Use only indoors
- No direct exposure to UV light
- Max. 2.000 m above sea level
- Overvoltage category II
- Pollution degree 2

### Compressed air connection:

- Connect to compressed air supply using the connection at the rear of the unit (7). Maximum pressure: 10 bar.



### Note!

**The compressed air must be clean and dry!**

**Any guarantee claims shall be excluded in case of malfunctions or damage resulting from inadequate compressed air supply!**

(See special accessories chapter 4.)

### Mains connection:



- Prior to operating, check whether the nominal voltage corresponds to the value indicated on the type plate the unit. The unit must be connected to a contact socket with a ground. Only connect the device to a mains socket with a ground connection.

- **Unit may only be operated with the enclosed power cord!**

Be sure to comply with technical specifications when the mains cable is replaced. The sheathing of the mains connection cable must be approved for a temperature of 90°C (194°F) or higher. See section 9. When using country-specific mains cables, make sure that the cables are certified in accordance with the electrical rating data and notes of the relevant standards of the respective country.

### Water drainage connection (silicone hose not included in the scope of delivery):

- Connect hose connection with the connection for water drainage (8) at the rear of the unit.

# Operating Instructions

## Polymerization unit for hot- and cold-curing resins

### 7 Working with the Palamat Premium



#### Attention!

Check the content of the shipping carton and compare with the scope of delivery described in the operating instructions (see chapter 4 scope of delivery).

Prior to operation it must be verified whether the information provided on the type plate correspond with the local power supply data.

The Palamat Premium polymerization unit features a cold-appliance plug and a safety plug. Power cord and plug must be checked for damage prior to the use. If any damage is found, the unit must not be connected to the mains supply.

The Palamat Premium polymerization must be connected to the mains supply via properly installed sockets with protective conductor connections (protection class I). The user must have easy access to the plug and mains socket.

GB

-7-

#### 7.1 Pressure pot

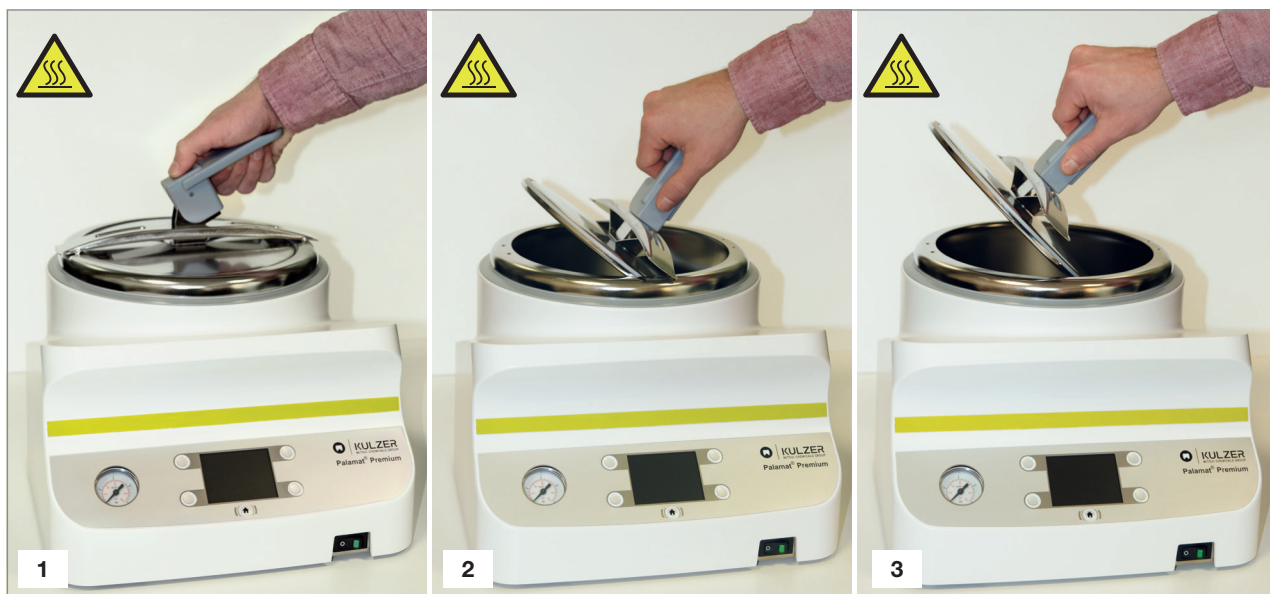
To open the lid (1), locking lever must be in upright position. Turn the lid by 90°, tilt it and remove it from the pressure pot.

After completing the polymerization process, the handle must be in a perpendicular position to open the lid.

The lid can only be removed if it has been lowered into the pot after release of pressure.

The lid is inserted and closed in reverse order. It must be ensured that the supporting strut of the lid fits into the grooves on the pressure pot rim.

#### Opening and closing the pressure pot



- 1) Place handle in perpendicular position and turn lid by 90°
- 2) Tilt lid slightly
- 3) Remove lid

The pot is closed in reverse order.

#### 7.2 Filling with water



The unit must not be heated without water. Minimum filling level: 4 cm. Even if objects are placed in, the filling level is always below the upper end of the air supply fitting.

Do not fill the unit under running water. Kulzer recommends filling the device using a suitable container with a spout.

Prior to filling with water, check if the water discharge valve at the rear of the unit is closed.

Use only pure tap water for processing.

**Distilled, deionized water or other liquids may not be used!**



## 7.2.1 Overtemperature protection



The Palamat Premium is equipped with two upper limit temperature protection fuses that are triggered when the temperature exceeds 110°C (230°F).

In the event of activation of the fuses, the heating circuit is interrupted.

Check the minimum water level regularly to avoid overheating.



### Note!

The overtemperature protections may only be reset by trained service personnel.

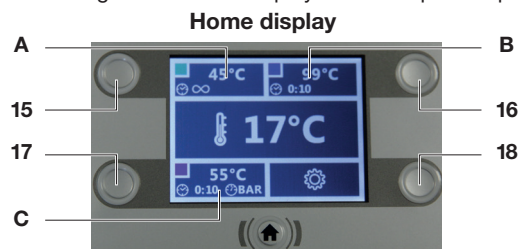
Contact your responsible service agent (see chapter 11 Service).

## 7.3 Polymerization

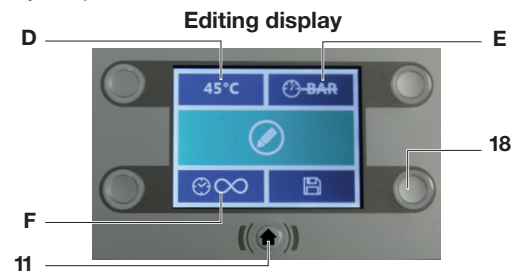
To switch on the unit, press the power switch (5) at the front of the unit. The power switch is lit and indicates that the unit has been started up. The Kulzer welcome screen with the software version is briefly shown on the TFT display (3) start screen.

### 7.3.1 Edit program (customize individually)

The device has three freely configurable programs (A / B / C) that are green / blue / purple color coded. In order to enter the editing area, one of the interactive buttons (15 / 16 / 17) on the Home display must be pressed for approx. 1.5 seconds. An audible beep will sound. The screen then changes to the Edit display for the respective program.



In this area, the temperature & stepped water-bath (D), pressure (E) on / off (BAR) and time (F) can be configured individually. Press the interactive button (18) to save the configuration settings. You can leave the editing area at any time by pressing the Home button (11). In this case, the changed settings are not saved. If the Home button is pressed for one second, the automatic heating function and standby temperature are deactivated.



#### Temperature

The program temperature selection is confirmed by pressing the button (15) on the Edit display. The display screen changes to the Temperature setting.



The temperature is configured using the assigned plus & minus buttons. The adjustable temperature range is 40°C – 99°C as well as the stepped water-bath. Confirm the selection with the Home button (11).

#### Time

Selecting the program time is confirmed by pressing the button (17) on the Edit display. The display screen changes to the Time setting.



The time is configured using the assigned plus & minus button. The adjustable time range is 0:01 – 9:59 [h:mm]. Continuous operation can also be set using the '∞' symbol. Confirm the selection with the Home button (11).

# Operating Instructions

## Polymerization unit for hot- and cold-curing resins

### Stepped water-bath

The stepped water-bath is a selection in the temperature menu and is set using the plus & minus buttons.



#### Note!

When the stepped water-bath is selected, any separate time or continuous operation setting is deactivated! The following time programme is automatically stored in the stepped water-bath. Start temperature 70°C (158°F), holding time of 90 min, heating up to 99°C (210°F), holding time 30 min. After the programme has ended, approach stand-by temperature of 70°C (158°F).



### Pressure

The pressure (BAR) can be switched on or off using the button (16) on the editing display.

Pressure ON



Pressure OFF



## 7.3.2 Display settings

Press the button (18) on the Home display to access the display settings. The display then changes to the Settings area.

### Display settings



- G. Automatic heating function activation / deactivation  
When the heating function is activated, the unit heats automatically. The maximum temperature is 70°C. Exception: in programmes with a target temperature of > 70°C (> 158°F), pre-heating is limited to a max. of 70°C (158°F). If the function is deactivated, the device heats up to the corresponding target temperature only after a program is selected.
- H. Water draining program  
The casting unit can be manually pressurized with compressed air to drain contaminated water via the water drain valve. Switching on / off is done by pressing repeatedly. If the program is selected, all heating functions are deactivated. Note: The function is deactivated when the boiler temperature is > 55°C (131°F). The button is then greyed out.
- I. Dimmer function activation / deactivation  
When the function is activated, the screen automatically dims after 2 minutes of no operation. After pressing a button, the screen lights up again. When the function is deactivated, the brightness of the screen does not change.
- J. Changing the temperature unit (°C / °F)

### 7.3.3 Starting, pausing and ending a process

Press one of the buttons (15 / 16 / 17) on the Home display to select the corresponding program. If this does not occur automatically, the target temperature is approached in accordance with the target temperature of the programme in question. For programmes with a target temperature > 70°C (158°F), heating to a max. 70°C (158°C) and target temperature is only approached after the programme is started (18). The corresponding polymerisation settings (temperature / time / pressure) can be read on the program display. The program starts when the button (18) is pressed. The current temperature is shown in the middle of the display. The arrow to the left of the symbol indicates "heating ↑" or "cooling ↓". The timer starts automatically when the target temperature is reached.



When the pressurization process (BAR) is activated, compressed air begins to flow immediately after the process has started. The pressure pot is then pressurized with 2 bar. The Pressure screen (4) provides an additional check.

By pressing the „Pause“ button (18), the process/timer sequence is paused and the pressure (if activated) is released. The temperature is maintained for programmes < 90°C (< 194°F). For programmes > 90°C (> 194°F), the temperature is reduced to 90°C (> 194°F). After the pause (18) has ended, the target temperature is approached again. The timer continues to count after the target temperature is reached.

After the timer has expired, the compressed air is released automatically and an audible beep sounds. After the programme has concluded, the temperature is held constant for programmes < 70°C (< 158°F); for programmes with target temperature > 70°C (> 158°F), the holding temperature is lowered to 70°C (158°F). The target temperature is not approached until the programme is started again (18). The end of the program is also indicated when the timer has run down to 0:00.



**There is danger of scalding in the vicinity where the pressure is released!  
The pause function is used to remove and add objects to the pot during a program run.**

### 7.4 Draining the contaminated water

Close the pressure pot, place the silicone hose on the hose nozzle (8) located on the rear wall of the unit for emptying, press the mains switch, open the water drain valve (8) and press the water drain program (Settings menu).

After the water has been expelled from the pressure pot, press the button for the water drain program again. Close the water drain valve, turn off the mains switch.



To empty the water reservoir, only use the enclosed silicone hose with a temperature resistance of at least 60°C (140°F).

When emptying the water reservoir, the silicone hose may heat up considerably, which means the max. allowable drain temperature is 55°C (131°F). The function is disabled and the symbol is grayed out at higher boiler temperatures.

### 7.5 Putting out of operation

- Discharge contaminated water (see chapter 7.4 Draining the contaminated water)
- Switch off the unit with the power switch (5)
- Unplug the unit (6)
- Any material residues should be removed with a sponge cloth

#### 7.5.1 Disposal of old equipment according to WEEE

##### Electrical and Electronic Equipment Act (ElektroG)

This Act sets out requirements for electrical and electronic equipment pursuant to directive 2002 / 96 / EG issued by the European Parliament and the European Council of 2005-05-03. Its main purpose is to prevent waste from electrical and electronic equipment and to promote reuse, recycling and other forms of recovery to reduce both the volume of waste for disposal and the inclusion in waste of harmful substances from electrical and electronic equipment.



For detailed information on professional disposal of disused old devices please contact your dealer or Kulzer subsidiary directly in your country.



**Important!  
Marked equipment must not be brought to local waste disposal centres!**

# Operating Instructions

## Polymerization unit for hot- and cold-curing resins

### 8 Maintenance

The unit must be unplugged (6) before it is cleaned. Use a moist cloth to clean the unit and make sure that no water penetrates into the unit. Do not use aggressive cleaning agents (scouring powder, solvents).

The unit consists of Makrolon components which may only be cleaned with mild cleaning agents or ethanol (96%). Spare fuses can be purchased from Kulzer or specialized dealers and may be exchanged by the customer.



**Attention!**

**The unit must be unplugged before exchanging fuses!**

### 9 Technical data

Power consumption	650 W	
Rated voltage / fuse type	100 V, 2 x T8A / 250 V 120 V, 2 x T6.3A / 250 V 230 / 240 V, 2 x T4A / 250 V	
Nominal frequency	50 / 60 Hz	
Voltage tolerance for all mains voltages	+-10%	
Mains cable	EU - H05V2V2-F 3G 0.75 250VAC/16A US - SJT3X18AWGWB105C C13/2,5m black 125VAC/15A	
Protective class	1	
Pollution degree	2	
Pressure hose connection	3 to 10 bars	
Nominal pressure	2 bars	
Max. operating pressure	2.8 bars	
Operating temperature of water	40 – 100°C (113 – 212°F)	
Temperature limit	Deviation + / - 2.5°C (4.5°F) or approx. 5%	
Height	Dimensions	Required space
Width	Height 300 mm	approx. 450 mm
Depth	Width 305 mm	approx. 315 mm
Weight	Depth 400 mm	approx. 550 mm
	Weight 8.6 kg	

### 10 Information on malfunctions

#### Error messages

Error	Cause	Remedy
E 98	Sensor break / short circuit (heating plate) or automatic software - Safety shutdown due to high temperature	<ul style="list-style-type: none"> <li>- Press the Home button (11).</li> <li>- Turn off the device</li> <li>- Check water level (see section 7.2)</li> <li>- Allow device to cool for approx. 10 min</li> <li>- If the error persists, please contact your service partner.</li> </ul>
E 99	Sensor break / short circuit (water bath) or automatic software safety shutdown due to high temperature	<ul style="list-style-type: none"> <li>Press the Home button (11).</li> <li>- Turn off the device</li> <li>- Check water level (see section 7.2)</li> <li>- Allow device to cool for approx. 10 min</li> <li>- If the error persists, please contact your service partner.</li> </ul>
E 18	Heating defect: If there is no temperature increase after a defined period of time.	<ul style="list-style-type: none"> <li>- Press the Home button (11).</li> <li>- Turn off the device</li> <li>- Check water level (see section 7.2)</li> <li>- Allow device to cool for approx. 10 min</li> <li>- If the error persists, please contact your service partner.</li> </ul>
E 19	Heating control: If the control temperature exceeds the target temperature for a defined period of time	<ul style="list-style-type: none"> <li>- Press the Home button (11).</li> <li>- Turn off the device</li> <li>- Check water level (see section 7.2)</li> <li>- Allow device to cool for approx. 10 min</li> <li>- If the error persists, please contact your service partner.</li> </ul>

## 11 Service



www.kulzer.com

We appreciate your comments, feedback, and suggestions.

Contact in the countries and more information are available by the displayed QR code or at our website [www.kulzer.com](http://www.kulzer.com)



### Micro USB port: (See section 5)

The USB port is used for software updates, which may only be performed by trained service personnel. Therefore, customers are not permitted to connect USB cables/adapters, etc. There is a risk of damage if not performed by trained service personnel!

## 12 Document history

2019-04	First edition.
2019-12	Water drain hose change.
2021-01	Updated Declaration of Conformity, editorial changes in chap. 7.3, 7.4.



Manufacturer:

**Kulzer GmbH**

Leipziger Straße 2

63450 Hanau (Germany)

Distributed in USA /

Canada exclusively by:

Kulzer, LLC

4315 South Lafayette Blvd.

South Bend, IN 46614-2517

1-800-431-1785