

## Operating Instructions

### RETOMAT MINI with EASY controller

LABORATORY EQUIPMENT IN  
STAINLESS STEEL



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Dear Customer,

The RETOMAT MINI is specifically designed for NEM, precious metal, and model casting technology. The EASY control system is ideal for quick embedding masses or as a secondary oven in large facilities. The control system is easy to use and allows programming of the desired target temperature with just a few programming steps. The RETOMAT MINI ensures even temperature distribution through a 4-side heating coil system and high-quality chamber insulation. The oven door swings open sideways.

Any use other than or beyond the intended purpose is considered improper. The user or operator of the device shall be liable for any resulting damages.

Before installation and commissioning, please read the operating instructions carefully, especially the safety precautions, and observe them diligently.

After unpacking the device, check for any transport damages of any kind. Complaints must be reported to the transport company or the manufacturer within 3 days. Later claims cannot be recognized.

This operating manual must be observed by all persons working with the device. To ensure quick access, we recommend keeping the operating instructions in a secure place near the device. This documentation is protected by copyright. The dissemination and reproduction of documents, even in part, as well as the utilization and communication of their content, are not permitted. In case of loss, it can be obtained again for a fee.

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## 1 Technical Description

### 1.1 Basic

- RETOMAT MINI with EASY controller

### 1.2 Special Accessories

- Best.-Nr.: 27301000      Katalysator
- Best.-Nr.: 27303000      Muffel-Ablageplatte

### 1.3 Product Description

- 1 Main switch (green illuminated)
- 2 Oven door
- 3 Handle (oven door)
- 4 Control panel (EASY control)
- 5 Gray rubber bumper
- 6 Socket (for optional catalyst)
- 7 Fuse holder
- 8 Cable entry with power plu
- 9 Pipe connection opening
- 10 Temperature sensor K
- 11 Heat shield plate



Abb.: Device view



Abb.. Side view



Abb.: Back view



Abb.: Oven chamber

## 1.4 Technical Data

|   | RETOMAT MINI           |
|---|------------------------|
| Line voltage                              | 230 V/50-60 Hz         |
| Current consumption                       | 2.500 W                |
| Height/width/depth mm                     | 510 / 390 / 430        |
| Heating chamber Height/width/depth in mm  | 115 / 165 / 150        |
| Mould sizes                               | 4 x moulds – size 3    |
| Volume                                    | 4,6 l                  |
| Weight                                    | 32 kg                  |
| Number of heating ramps                   | 1                      |
| Number of storage spaces                  | 1                      |
| Heating                                   | four-sided heating     |
| Programming                               | electronic, individual |
| Sound level                               | ≤ 70 dB(A)             |
| Housing                                   | stainless steel        |
| Made in Germany (Subject to modification) |                        |

## 2 Safety Notes

### 2.1 General Safety Notes

- Each device leaves the factory after final inspection and a test run. However, if the device is damaged or altered due to transportation or other circumstances, it must not be put into operation. Check the device regularly for any damages. Damaged parts must be replaced immediately.
- All electrical and other supply connections must be made according to the technical specifications. The values must not be exceeded or undershot. Observe VDE regulations. Use only approved grounded connections.
- The regulations regarding any necessary inspections (e.g., by employers' liability insurance associations or electrical systems) are solely the responsibility of the buyer/user of the product.
- This device is designed for use according to the technical description and thus should only be used for its intended purpose. Any other use is not permitted for safety reasons – in such cases, the manufacturer's liability is void.
- The device should only be used by persons who have been trained in its operation and explicitly assigned to operate it.
- Place the device only in a heated, ventilated, clean room, possibly under an extractor hood.
- The installation surface should be flat, level, and have appropriate stability for use.
- No objects should be placed on the device.
- To avoid any risk of injury, appropriate protective clothing should be worn, and suitable tools should be used (such as gloves, safety goggles, face mask, safety shoes, ear protection, and pliers).
- If the expected work results are not met, do not continue to work with the device. The owner is liable for any subsequent damage caused by continued use.
- To prevent water, fire, and explosion damage, always shut off all supplying energy sources and secure them against unauthorized operation after work or work interruptions.
- Before performing maintenance, cleaning, or repair work, and before opening the device, always switch off the main switch and unplug the power plug.
- Repairs should only be carried out by qualified and certified personnel. The provisions in Chapter 7 regarding warranty apply.
- If there is suspicion of liquid ingress, stop operation and contact service.
- Check all hose connections for tightness and tighten hose clamps if necessary.

## 2.2 Specific Safety Notes

### Notes:

When inserting the workpieces into the heating chamber, ensure that the temperature sensor, located in the upper right corner, is not damaged. The muffle(s) must have sufficient distance from the muffle chamber and from the exhaust hole to avoid damaging the oven. In case of a power outage during operation, the heating process will be interrupted and not resumed. Opening the flap will also interrupt the heating process, which will resume upon closing the flap.

To extend the life of the heating chamber, it is recommended to use a ribbed ceramic fleece as a pad. Overfilling the chamber can lead to stress cracks.

The oven is not suitable for continuous use in the high-temperature range.

Never use the device for sintering materials such as zirconia or others.

Always check the connection values in principle. Due to the power values, the oven must be connected to a separately secured power supply.

The oven does not need to be burned out before commissioning.

The RETOMAT oven may only be operated by professionally trained personnel:

- In dental laboratories for burning out muffles and other thermal processing;
  - In tool manufacturing companies for thermal processing of steel;
  - In industry;
  - In goldsmiths;
  - In research laboratories.
- The radiant heat on other objects or persons must not exceed 50°C. Please use insulation plates if necessary.
  - The RETOMAT MINI is not intended for operation with inflammable, explosive, or chemically aggressive substances without special protective or additional devices.
  - Do not use substances/liquids with health-damaging vapor development. Use melting substances with protective vessels.
  - In the immediate vicinity of the RETOMAT oven, no inflammable or explosive substances should be stored.
  - No objects should be placed on the device. If the oven is placed in a closed fume hood, ensure adequate ventilation. Please ensure appropriate air extraction options (e.g., through an extractor hood).
  - A clearance space of at least 1 meter must be maintained in front of the oven.



### 3 Installation

The electrical equipment is being delivered fully installed. The sealed plug can be connected directly to the mains supply 230 V/16 A. For installation please refer to safety notes in chapter 2.

#### 3.1 Installation

1. Place the RETOMAT oven on a stable, fireproof workbench of suitable height and on a level surface (minimum width 450 mm). Provide a fireproof underlay for placed firing goods if necessary, and optionally use the muffle storage plate.
2. Maintain a minimum distance of 50 mm on all sides of the RETOMAT oven due to the lateral cooling openings to allow air circulation.
3. Do not place any other devices or products on the RETOMAT oven to prevent local heat build-up.

#### 3.2 Control panel

After turning on, the device performs a self-test. This is indicated by the word "Test" appearing in the display. It blinks for approximately 5 seconds, after which the actual temperature (°C) is displayed.

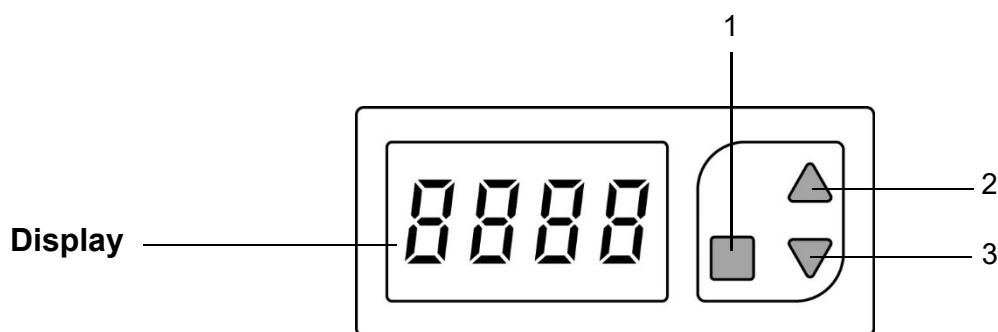


Abb.: Control panel

#### Key

- |   |               |
|---|---------------|
| 1 | Set           |
| 2 | Temperature + |
| 3 | Temperature - |

### 3.3 Use of a steam catalyst

**Notes:**

Please note that the ceramic filter can become clogged due to heavy soot development (depending on the fuel used). To clean it, loosen the screw on the side of the chamber and lift the filter insert upwards. The catalytic converter insert can be burned off for one hour in the preheating oven at 700°C. After cooling down, it must be reinserted as described above.

1. Screw the extraction unit to the back of the device, each with the pipe connection.
2. Insert the device plug into the socket (6) of the oven (back).
3. Please ensure to keep the pipe length short. If the desired suction effect is not achieved, additional fans may need to be incorporated into a longer pipe construction. This is the responsibility of the customer.
4. Never place the catalyst freely in the room, but always lead it out of the building. Please consult your building installer.
5. The socket (6) is connected to the main switch.

## 4 Operation

To set the desired temperature, follow these steps:

1. Establish power supply using the power plug located on the device. The main switch is located on the back. The device switch is located on the right side. The control panel remains powered continuously.
2. The current temperature appears on the display.
3. To program, press "Set". Cl.SE appears on the display.
4. Immediately afterwards, set the desired temperature using the arrow keys + / -. Pressing the keys for a longer duration allows for setting the temperature in larger increments.

### 4.1 After Operation

The molded parts of the oven door cannot withstand rapid temperature changes well. If the oven is turned off and left open after use at high temperature, the hot oven door is exposed to room temperature and cools down too quickly. This significant and rapid temperature change can lead to delamination of material layers on the oven door. Please ensure to avoid these separations by closing the oven door during the cooling phase. Slow cooling does not lead to material tensions.

## 5 Troubleshooting

|   |   |
|---|---|
| Device doesn't start.                   | a. Check domestic fuses.<br>b. Check the device's fuse.   |
| Humidity in the chamber; fuse has blown | In case of humidity problem burning out at 200 °C is recommended.   |
| Display goes back.                      | After about 15 sec. without entry/selection the display goes back to the respective program's basic mode.   |
| Device doesn't heat.                    | Door closed or door contact audible?<br>Please open and close door once again.  |
| Insufficient exhaust fan capacity.      | Use fume exhaust blower or catalyst. If applicable pay attention to short tube length and if necessary ask your plumber for installation of additional fans. (Fume exhaust is to be led out of the building). |
| Further errors.                         | Contact service.  |

## 6 Maintenance

- Regularly check the appliance for visible damage to the housing or the power cord.
- Clean the housing regularly with a damp cloth and use REITEL stainless steel care spray.

### Note:

Clean and protect your device at regular intervals with the REITEL stainless steel care spray (order -no.: 90405000) to remove lime, plaster and dust as well as other contaminants from the surface of the equipment and to prevent corrosion. The spray creates a lasting, water repellent protective film which helps keep the equipment clean.

## 7 Warranty

We, REITEL Feinwerktechnik GmbH, offer a 1 year's warranty beginning from the proven date of purchase. This warranty covers all defects traceable to materials, design or workmanship. The following warranty regulations are applicable:

Within the warranty period Reitel Feinwerktechnik GmbH or an authorized distributor agrees at its sole option, to perform repair or replace this product at no charge covering all defects traceable to materials, design or workmanship. Warranty only applies to appropriate use and regular maintenance of this product according to the operating instructions. Claims under

warranty are restricted to complementary performance. Additional claims, especially claims for indemnifications, are not covered by this warranty.

1.

Warranty claims have to be addressed to the distributor the product was purchased from or directly to our service department.

Contact:

REITEL Feinwerktechnik GmbH

Senfdamm 20

49152 Bad Essen

Germany

Phone: +49(0)5472-9432-32 (Service Department)

Phone: +49(0)5472-9432-0 (Reception)

Fax-No: +49(0)5472-9432-40

2.

In case of warranty claim application the sales receipt or your purchase invoice showing the date of purchase of the product and the serial number must be furnished. Securely pack and ship the device, freight charges prepaid, at your own risk to us, along with a report describing the defect. We reserve the right to decline warranty if this information has been removed or modified after purchase of the product or if they are not included in case of warranty claims.

3.

Warranty repairs have to be performed by REITEL Feinwerktechnik GmbH or by authorised distributors. Repairs performed by non-authorised companies will void the claim for refund since damages to the product resulting hereof are not covered by warranty.

4.

If the unit sent in for repair or replacement is still under the original warranty then warranty is to the end of the original 1 year warranty.

5.

If the unit is destined to be operated in another country than originally intended and manufactured for, modifications to the product might be necessary to comply to special technical and /or safety standards of that specific country. Such modifications are no defects traceable to materials, design or workmanship. and are therefore expressly excluded from warranty claims.

Modification costs or damages arising from operation of the product under deviating conditions are not covered by warranty.

6.

Exclusions from warranty:

- Service and maintenance work as well as repair and replacement of consumables according to our consumables' list
- Transportation cost of the machine or installation and dismounting expenses incurred
- Damages due to use of the product other than for its intended purpose
- Damages due to faulty installation or insufficient maintenance of the product (e.g. decalcification)
- Damages due to natural disaster e.g. lightning, water, fire, act of nature beyond control, war, inadequate line voltage, insufficient ventilation, no decalcification, insufficient care and cleaning or non-adherence to operation and maintenance instructions according to the accompanying operation guide.
- Damage due to use of the product other than in accordance with the instructions provided by REITEL Feinwerktechnik GmbH;
- The warranty does not cover the cost of removal and replacement of parts and accessories, unless supplied as original equipment by REITEL Feinwerktechnik GmbH
- All kind of damages occurred not directly at the device as well as consequential damages (e.g. damages to furniture due to a lack of water, downtime of the machine, material, lost working hours, wages and other consequential damages).

This warranty shall be rendered null and void if:

- the product has been subject to any modification, repair or replacement other than as authorised by REITEL Feinwerktechnik GmbH
- the product is continued to be operated despite a functional defect

7.

The warranty is device specific and may be claimed, within the warranty period, by any person who has legally acquired the device.

8.

Consumables are excluded from warranty. Spare parts are subject to a warranty coverage of 6 months against all defects traceable to materials, design or workmanship according to these warranty regulations.

9.

Legal default claims on the part of the purchaser remain unaffected by this warranty.

10.

We reserve the right to charge a fee if repair of the device is rejected and the device is destined to be sent back unrepaired.

11.

**Please note:**

Upon repair or replacement of this unit, personal data and settings might get lost or damaged. We don't accept liability for all kind of data loss. The customer is advised to backup essential programs and data before sending for service.

12.

This warranty shall be interpreted in accordance with German law to the exclusion of UN sales law. Place of jurisdiction is our business location.

13.

If any provisions of this warranty are judged to be illegal or unenforceable, the continuation in full force and effect of the remaining provisions will not be prejudiced. The provisions of this warranty judged to be illegal or unenforceable shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable and to give effect to section 13 hereof.

14.

Should you need to borrow a device while your device is being repaired, please contact Messrs. REITEL or your distributor. These loans are a service for which availability cannot necessarily be guaranteed. After the warranty period, a fee may be charged for loan equipment as well as for shipping and packaging.

## **8 Disposal Regulations**



According to valid laws our devices are disposed of properly according to B2B-regulations for proper disposal. Pls. contact your local dealer for information on local disposal guideline

## 9 Spare Parts List

| <b>Best.-Nr.<br/>Ref.:</b> | <b>Retomat mini, Retomat, Retomat MG<br/>Ersatzteilliste / Spare parts list 03/2019</b>                     | <b>St.<br/>Qty</b> | <b>ME<br/>Unit</b>    |
|----------------------------|---|--------------------|-----------------------|
| E8101500                   | <b>Feder<br/>Spring</b>   | <b>1</b>           | <b>Stck<br/>piece</b> |
| E8101300                   | <b>Holzgriff<br/>Wooden handle</b>  | <b>1</b>           | <b>Stck<br/>piece</b> |
| E5010600                   | <b>Katalysator ( Keramik ) für 73.1<br/>Catalyst (ceramics) for 73.1</b>                                    | <b>1</b>           | <b>Stck<br/>piece</b> |
| E7814200                   | <b>Keramik Einlegeplatte 067 (Retomat Mini) 130 x 135 mm<br/>Ceramic inlay 067 (Ret. Mini) 130 x 135 mm</b> | <b>1</b>           | <b>Stck<br/>piece</b> |
| E7814300                   | <b>Keramik Einlegeplatte 073 (Retomat) 190 x 195 mm<br/>Ceramic inlay 073 (Retomat) 190 x 195 mm</b>        | <b>1</b>           | <b>Stck<br/>piece</b> |
| E7814400                   | <b>Keramik Einlegeplatte 074 (Retomat MG) 208 x 218 mm<br/>Ceramic inlay 074 (Retomat MG) 208 x 218 mm</b>  | <b>1</b>           | <b>Stck<br/>piece</b> |
| E8101800                   | <b>Keramikrohr<br/>Ceramic tube</b>   | <b>1</b>           | <b>Stck<br/>piece</b> |
| E6094010                   | <b>Mikroschalter - Doppelkontakt (für Mini/Retomat/MG)<br/>Micro switch - double contact</b>                | <b>1</b>           | <b>Stck<br/>piece</b> |
| E6064800                   | <b>Schalter grün beleuchtet<br/>Green illuminated switch</b>  | <b>1</b>           | <b>Stck<br/>piece</b> |
| E6221210                   | <b>Sicherung, superflink, KLK- 15A<br/>Super quick fuse, KLK-15A</b>  | <b>1</b>           | <b>Stck<br/>piece</b> |
| 27304000                   | <b>Temperaturfühler<br/>Temperatur control</b>  | <b>1</b>           | <b>Stck<br/>piece</b> |
| E8102300                   | <b>Türschalter komplett<br/>Door switch, cpl.</b>   | <b>1</b>           | <b>Stck<br/>piece</b> |

## 10 EC Conformity Declaration

### EU-Konformitätserklärung EC Conformity Declaration CE-Déclaration de Conformité

im Sinne der Niederspannungs-Richtlinie 2014/35/EU (Anhang III B)  
according to Low Voltage Directive 2014/35/EU (Appendix III B)  
au sens de la Directive Basse Tension 2014/35/EU (Annexes III B)

**Name und Anschrift des Herstellers/Name and address of manufacturer/Nom et adresse du fabricant:**

Reitel Feinwerktechnik GmbH  
Senfdamm 20  
49152 Bad Essen

Diese Erklärung bezieht sich nur auf das Gerät in dem Zustand, in dem es in Verkehr gebracht wurde; vom Endnutzer nachträglich angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt. Die Erklärung verliert ihre Gültigkeit, wenn das Produkt ohne Zustimmung umgebaut oder verändert wird./This declaration relates exclusively to the machinery in the state in which it was placed on the market and excludes components which are added and/or operations carried out subsequently by the final user. This declaration will become invalid if any unauthorized modification is made to the product./Cette déclaration concerne exclusivement les machines dans l'état dans lequel elles ont été mises sur le marché et exclut des composants ajoutés et/ou les opérations effectuées par la suite par l'utilisateur final. La présente déclaration perd sa validité si des modifications non-autorisées ont été apportées à la machine.

**Hiermit erklären wir**, dass nachstehend beschriebenes Gerät/**We hereby declare** that the machine described below/  
Nous déclarons que la machine ci-dessous

**Produktbezeichnung/Product name/Nom du produit:** Vorwärmöfen/  
Preheating Furnaces/  
Fours de chauffe

Typenbezeichnung/Type/Type: RETOMAT MINI, RETOMAT COMFORT

allen einschlägigen Bestimmungen der Richtlinie 2014/35/EU und 2014/30/EU und 2011/65/EU (RoHS 2) entspricht.  
is in conformity with all applicable requirements of the Directive 2014/35/EC and 2014/30/EC and 2011/65/EC (RoHS 2).  
est conforme aux dispositions applicables de la Directive 2014/35/CE et 2014/30/CE et 2011/65/EC (RoHS 2).

**Angewandte harmonisierte Normen/Harmonised standards applied/Normes harmonisées appliquées:**

DIN EN 61010-1:2020      DIN EN 61000-6-3:2011  
DIN EN 61000-6-1:2019

11.02.2021

Ort, Datum  
Place, Date  
Lieu, Date

Daniel Reitel, Geschäftsführender Gesellschafter/Managing Director/  
Directeur Général

Unterschrift/Signature/  
Signature











We adhere to the quality management system of ISO 13485:2016, ensuring consistent process standards.



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