

Instructions for use



CE

Pressure polymerization vessel Polyclav®

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Dear customer

Thank you for choosing a quality product from Dentaaurum.

It is essential to read these instructions carefully and adhere to them to ensure safe, efficient use and ensure that you and your patients gain full benefit.

Instructions for use cannot describe every eventuality and possible application. In case of questions or ideas, please contact your local representative.

As our products are regularly upgraded, we recommend that you always carefully read the current instructions for use supplied with the product and stored in the internet at www.dentaaurum.com, even though you frequently use the same product.

1. Manufacturer

Dentaaurum GmbH & Co. KG | Turnstr. 31 | 75228 Ispringen | Germany

2. Safety information



This symbol indicates direct danger to the life or health of the user. Disregarding this warning may involve a serious risk to health.



This symbol indicates important safety instructions. Disregarding this warning may cause damage to the unit and/or other property.



This symbol gives important information on the correct use of the unit. Disregarding this information may cause the unit to malfunction.

2.1 Safety recommendations and notes on maintenance

! The safety valve ③ should be checked regularly during use twice a month by unscrewing the serrated nut.

Build-up of lime in the safety valve can prevent it from functioning. Every 6 months, the following test should also be performed: fill the Polyclav® to the rim with water, replace and lock the lid and then pressurize. The safety valve must open between 2.5 – 2.8 bar.

If the safety valve does not open, unscrew it and clean with vinegar, which will dissolve lime deposits – if necessary, replace the safety valve.

! Should these precautions prove to be ineffective, the unit must be returned to the manufacturer. On safety grounds, only the complete unit with matching lid and body should be checked – and if necessary – repaired with spare parts from the original manufacturer only.

! We recommend that both the interior and exterior of the unit be cleaned regularly to prevent build-up of corrosion products.

We recommend that the periods for retesting registered in the EC Declaration of Conformity be adhered to in your own interest.

2.2 Appropriate handling

Pressure polymerization vessel for the »*Orthocryl*« technique»

- Conforms to the Pressure Equipment Directive 97/23/EC.
- New TÜV-approved safety valve.
- Reinforced vessel construction. Conforms to the specifications for pressure vessels.
- Teflon®-coated for corrosion protection.

Corrosion resistant coating, fast and easy cleaning. Considerably prolonged life of the vessel.

2.3 Packing

The Polyclav® is protected against damage during shipment. In the unlikely event that the Polyclav® has been damaged during transit, your specialist supplier or forwarding agent should be notified immediately.

2.4 Complete unit

Polyclav® polymerization pressure vessel, without compressor connecting hose – REF 070-000-00

3. Area of application and description

3.1 Principle

Processing in the Polyclav® under a pressure of 2.0 – 2.2 bar (32 psi) has the advantage of conducting away the heat of polymerization while increasing the boiling point of the monomer, and thus guaranteeing a bubble- and pore-free hardening of the resin. In addition, the warm water in the process vessel transfers the internal pressure to the curing Orthocryl® resin.



- ① **Inlet valve | REF 070-100-00**
The valve seating must be firmly screwed into the lid (turns clockwise).
The cap is provided with a key to check the fit of the valve.
The inlet valve conforms to the Standard for car tyres.
- ② **Pressure gauge | REF 070-200-00**
The working pressure of 2.0 – 2.2 bar is marked with a green line.
- ③ **Safety valve | REF 070-300-00**
This cuts in if the Polyclav® is pressurized above the red 2.5 bar mark and releases the excess pressure.

④ Locking lever | REF 070-400-00

This both locks the lid and acts as a pressure release valve. This double function is an additional safeguard against opening the Polyclav® while under pressure. Undoing the mechanical lid lock at the same time opens a pressure release valve, which effects the pressure balance. If the locking lever and the pressure release valve become too easy or too tight to turn, the tension on the conical spring may be wrong.

To correct this:

1. Undo the screw in the top of the locking lever
2. Lift off the locking lever
3. Loosen or tighten the tension nut on the spring using an octagonal spanner or flat-nosed pliers.

⑤ Handles for lid and pressure pot (1 pair) | REF 070-500-00

All handles are packed separately from the Polyclav® vessel. They must be assembled so that the profiled side of the lid handle faces up and the one of the pressure pot faces down, leaving the smooth sides facing each other.

⑥ Handhold | REF 070-500-50

⑦ Rubber pressure seal (not illustrated) | REF 070-600-00

⑧ Pressure hose (Fig. page 8) | REF 070-700-00

Safety tested pressure hose, 2 m long, Inlet valve coupling.

3.2 Hardening in the Polyclav® – Please follow these instructions exactly!

The plaster cast must be saturated with water before it is placed in the Polyclav® since bubble formation will occur with dried-out casts.

The Polyclav® should be filled with lukewarm water (i.e. water at 40 – 46 °C / 104 – 114.8 °F) to 3 – 5 cm (1 – 2 inches) off the rim.

For best results, the resin must be placed into the Polyclav® and pressurized at the right time, that is when the Orthocryl® plate starts to become firm.

The working pressure of 2.0 – 2.2 bar (32 psi) can be achieved with a compressor or compressed air, or with a car tyre inflator if necessary, and regulated with a manometer. The Polyclav® should be pressurized until the resin is completely hardened. For the exact length of time please see instructions for use of the acrylic used. If the pressure should drop slightly during this period, the resin will still be hard and pore-free. It is also possible to interrupt the process to insert further plates before the total curing time has elapsed provided that the resin has been under pressure for at least 12 minutes. Each plate must be pressurized for 20 minutes.

The Polyclav® can be connected by means of a pressure hose, available under REF 070-700-00, to any office or laboratory compressed air supply having a working pressure of 3 – 4 bar (43 psi). Any necessary modifications or adjustments to achieve this will be more than compensated for by the improved physical properties of the resin.

4. Use

4.1 Closing the Polyclav® and pressurizing

1. Set the lid fully down on the bayonet catches on the vessel body. The marking line on the lid must be aligned with the locking mechanism on the handle.
2. Turn the locking lever to the "OPEN" ("AUF") position.
3. Rotate the lid until the two handles are in line.

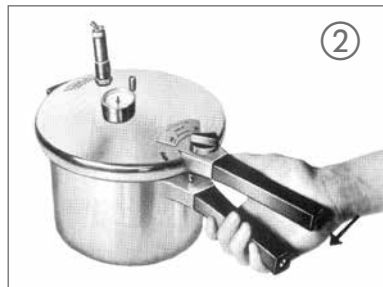


4. Turn the locking lever to the "CLOSED" ("ZU") position.

When the locking lever is in the "CLOSED" ("ZU") position:

- a) the pressure release valve is closed, and
- b) the lid is mechanically locked.

The lid cannot be removed when the Polyclav® is under pressure.



4.2 Build up pressure in the vessel

1. Pressurize the closed vessel with the pressure hose to 2.0 – 2.2 bar (green marking line).
2. Should the pressure exceed the green marking line it can be reduced by briefly opening the locking lever.
3. Should the pressure exceed 2.5 bar (red marking line) the safety valve automatically opens and reduces the pressure to 2.0 bar.



4.3 Releasing the pressure and opening the Polyclav®

1. Turn the locking lever to the "OPEN" ("AUF") position.
2. Wait until all the pressure has been released.
3. Turn the handle to the right until unlocked (the marking line on the lid should be aligned with the locking mechanism on the handle) and then lift off.




When the locking lever is in the "OPEN" ("AUF") position

- a) the pressure release valve is open and
- b) the lid locking mechanism is released.

This ensures that the pressure is released before the lid can be opened.

4.4 Care and maintenance

 To obtain the longest possible life span of the Polyclav® pressure vessel, observe the following instructions:

The average life of the rubber pressure seal is one year, but can be extended by treating it with talcum powder, glycerol or Vaseline (petroleum jelly). The rubber pressure seal should never be allowed to dry out in order to avoid abrasion when opening and closing the Polyclav®.

Changing the seal: Lift out the old rubber pressure seal from the lugs. Insert the new rubber pressure seal underneath four opposite lugs. At first the rubber pressure seal will appear to be too big. Seat the rubber pressure seal under all of the lugs making sure that it is evenly and tightly in position. Greasing the rubber pressure seal with Vaseline will make it easier to seat.

- The surface facing upwards of the bottom part of the pressure vessel must be clean, as dirt can reduce the seal's life and cause leakages.
- To avoid nicks in the vessel, do not put on the lid with too much force.
- To protect the coating of the vessel, do not clean the vessel with aggressive detergents or hard cleaning utensils (wire brush).
- Empty and dry the vessel at the end of a work day.

5. Spare parts

| Description | REF | Quantity |
|--|------------|----------|
| Inlet valve, complete | 070-100-00 | 1 piece |
| Pressure gauge, complete | 070-200-00 | 1 piece |
| Safety valve, complete | 070-300-00 | 1 piece |
| Locking lever complete (pressure release valve and lid lock) | 070-400-00 | 1 piece |
| Handles for lid and pressure pot | 070-500-00 | 1 pair |
| Handhold | 070-500-50 | 1 piece |
| Rubber pressure seal | 070-600-00 | 1 piece |
| Compressor connecting hose | 070-700-00 | 1 piece |

Please note: Should repairs ever become necessary, please return the entire Polyclav® vessel (not just the lid or the body) to the factory.

6. Technical data

| | |
|---|---------------------------------------|
| Height | 180 mm, with valve 250 mm |
| Internal-ø max. | 200 mm |
| Weight | ca. 2.5 kg |
| Material | Aluminium with Teflon® inner coating |
| Volume | 4 litres |
| Working pressure | 2.0 – 2.2 bar (29 – 32 psi) |
| Admissible working excess pressure | 2.5 bar |
| Test pressure | 4 bar |
| Max. pressure in the compressed air circulation | 8.0 bar |
| Maximum working temperature | 50 °C/122 °F |
| Pressure vessel | Category I acc. to guideline 97/23 EC |

7. Disposal

When a Dentaurem product is finally no longer in use the disposal regulations of that particular country apply. Dentaurem or the dental trade is available to answer questions regarding the correct disposal of any specific product.



Note:

This symbol indicates, products marked with it should not be disposed off together with garbage of households. The legislator disallows commercial customers to return electronic waste via municipal collection points. Further information is available through Dentaurem or the dental trade.

8. Quality information

Dentaurem ensures a faultless quality of the products manufactured by us. These recommendations are based upon our own experiences. The user himself is responsible for the processing of the products. Responsibility for failures cannot be taken, as we have no influence on the processing on site.

9. EEC-Declaration of Conformity

DENTAURUM GmbH & Co. KG
Turnstr. 31
75228 Ispringen

hereby declares that the design and construction of the laboratory equipment described below, including the version marketed by us, comply with the basic regulations governing safety and health as stated in the EC guidelines. This declaration will become invalid if the laboratory equipment is modified or altered in any way without our prior consent.

Description of unit: **Polyclav (REF 070-000-00)**
Type of unit: Pressure equipment for polymerisation
EC guidelines: Pressure Equipment Directive 97/23/EC

The identification plate carries the following information:

Manufacturer: Dentaurum GmbH & Co. KG
Maximum pressure: 2.5 bar
Operating pressure: 2.0...2.2 bar
Operating temperature: max. 50°C / 122°F
Pressure of the pressure
release system: max. 8 bar
Capacity: 4 litres




Date and manufacturer's signature: 01.01.2010
Signatory:

- i.V. Dipl. Ing. (FH) K. Merkle -
Production Manager Mechanic

Printing Date: 03.11.15

The serial number and year of manufacture are stamped near the handles of lid and body of the unit.
The unit is equipped with a class 1.6 manometer having a red line marker at 2.5 bar and a safety valve, complying with TÜV requirements for components, set at 2.5 bar.
Recurrent testing of pressure vessel must be ordered by user.

 We recommend to pressure test the unit at least every 5 years. The unit must only be operated in accordance with the enclosed operating instructions.

Dentaurum Group

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and in more than 130 countries worldwide.



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QUALITY
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UNIQUE

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Date of information: 03/17

Subject to modifications

989-511-02 Printed by Dentaurum Germany 03/17/C/R1-2

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