

# Instructions



## Biaxial Mixer

*ROTA 400*

Keep this manual within immediate  
reach of the machine

Translation of the original instructions -en English

 **Collomix**

Version G 1.5-18



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## 1. Layout Drawings

### 1.1 Machine components



### Machine components

1. Screw for transport roller	7. Manual door release
2. Line connector and main fuse	8. Control panel
3. Upper clamping plate	9. Door
4. Control system fuse	10. Lower clamping plate
5. Main switch	11. Loading shelf
6. Emergency Stop	12. Machine legs

## 1.2 Operating and display components



Button for DOOR

- OPEN door



Button E

- OPEN the mixing unit
- STOP – stop mixing cycle prematurely
- ACKNOWLEDGE messages



Button I

- Mixing cycle I



Button II

- Mixing cycle II



Button III

- Mixing cycle III

## 2. About this document

This instruction uses symbols and labels, which should make it easier for you to find information swiftly. Please read the explanations in the following Section. Please read the safety and warning information in these instructions especially carefully. Safety information is in Chapter 2. You find information on warnings in the introduction of Chapters and before instructions.

Collomix GmbH owns the copyright of images and text.

Please read the operating instructions prior to first use. Pay attention to safety instructions. Keep for future use. This documentation is not subject to change services.

### 2.1 Pictograms and symbols

#### Warnings

The following symbols and signal words are used in this documentation.

Symbol	Meaning
<b>DANGER</b> 	This signal word is used, if death or severe physical injuries is the result of not paying attention to the corresponding precautionary measures.
<b>WARNING</b> 	This signal word is used, if death or severe physical injuries may result from not paying attention to the corresponding precautionary measures.
<b>ATTENTION</b> 	This signal word is used, if slight physical injuries occur from not paying attention to the corresponding precautionary measures.
<b>CAUTION</b>	This signal word is used, if malfunction of functions or property damages may occur from not paying attention to the corresponding precautionary measures.
<b>IMPORTANT</b>	This signal word is used for easing operation or for pointing to references.

#### Structure of warnings

##### DANGER

The first line describes the type and source of danger.

The second line describes the consequences which occur if no actions are taken to avert the danger.

→ The last line describes the actions to take in order to avoid the danger.



##### WARNING

**Danger of injury through disregard of safety symbols**

Ignoring the warnings on the equipment and in the operating instructions can lead to injuries and additional risks.

→ Pay attention to the warnings on the equipment and in the operating instructions.



The following special safety symbols are used in the appropriate text portions of these Operating Instructions.

### Mandatory signs

Symbol	Explanation	Symbol	Explanation
	<b>Please read the information</b>		<b>Disconnect from power after use</b> <b>Disconnect from power before opening the housing</b>
	<b>Use safety gloves</b>		<b>Use safety shoes with steel toe cap</b>

### Warning signs

Symbol	Explanation	Symbol	Explanation
	<b>Warning from a danger zone</b>		<b>Danger of electric shock</b>

Position numbers to the illustrations are stated in parenthesis in the text.

## 3. For your safety

The biaxial mixer was developed, manufactured, and tested in accordance with the basic safety requirements. Despite, there is an element of risk.

- Therefore, please read these Operating Instructions before working with the machine.
- Keep the Operating Instructions within immediate reach of the machine.
- Please hand the Operating Instructions to any subsequent owners.

### 3.1 General Safety Information

The basic safety information of this Chapter is supplemented by precise warnings in further chapters of the Operating Instructions.

### 3.2 Intended Use

The biaxial mixer is intended to mix:

- Colours
- Colour granulate
- Façade colours
- Industrial colours
- Plaster
- Other materials with low viscosity.

Any other or expanded use of the biaxial mixer is a non-intended and therefore, improper use. In this case, the safety mechanisms and the protection provided by them may be compromised. Collomix GmbH is not liable for any damages caused by it. Parts of the intended use are:

- complying with all information in these Operating Instructions
- complying with all safety information
- complying with the inspection and maintenance work

### 3.3 Foreseeable Misuse

Any reasonably foreseeable misuse, which can be hazardous for the user, third parties, or for the biaxial mixer are:

- The use of the biaxial mixer and its accessories contrary to the intended use.
- The use of damaged containers or containers not suitable for mixing.
- The mixing of explosive substances.
- The use of substances, which react chemically with one another; in particular, expanding substances.
- The use of the equipment outside the physical use limitations described in the Chapter "Commissioning / Operating".
- The modification of the control software without the prior coordination with Collomix GmbH.
- Modifications on the biaxial mixer as well as add-ons and retrofits without the prior coordination with Collomix GmbH.
- Operating the system contrary to the requirements of the Operating Instructions concerning safety information, installation, operation, servicing, and maintenance, set-up, and malfunctions.
- Bridging or decommissioning of safety and protective actions of the system.
- Operating the system if malfunctions are obvious / with obvious malfunctions
- Repair, cleaning, and maintenance work without disconnecting the system from power.

#### WARNING

##### Danger of injury through improper modifications

Hazards exist through unauthorized modifications to the system and the use of third party spare parts.

- Use only original spare parts and accessories of the manufacturer.
- Do not change, add to, or retrofit the system without the consent of the manufacturer.



### 3.4 Qualifications of operating personnel

These Operating Instructions are directed toward operators and personnel with the following areas of competency:

Working area	Expertise
Installation, transport and storage	Specialised staff
Commissioning, decommissioning	Trained personnel
Operation	Trained personnel
Servicing and maintenance	Specialised staff
Troubleshooting	Specialised staff

#### Definition acc. to DIN EN 60204-1:

##### Trained personnel:

A person, who was instructed by an expert in the responsibilities he or she has been assigned and any possible hazards in case of improper behaviour and a person, who was trained in the necessary protective devices and protective actions, if needed.

##### Expert staff:

Persons who can evaluate the work assigned to them and recognize possible dangers on the basis of their specialised training, knowledge, experience, and familiarity with the relevant norms.

### 3.5 Safety-relevant components

The machine is equipped with various safety devices. These help to avoid dangers to body and life through electrical and mechanical impacts on the persons working with the biaxial mixer and they help to limit any material damages to the system.

- Do not bypass, remove, or render ineffective the safety equipment.
- Do not operate the system if the safety equipment is not complete or fully functional.

#### Closed housing

The housing, which can only be opened with tools, forms a fixed, separating safety device.

#### Machine door with interlocking device

The door forms a locking, separating unit with interlocking device. The machine cannot be started when the door is open. The door is only released after the mixing process has ended and the mixing vessel is released.

#### Loading shelf

The loading shelf prevents reaching into the mixing room when the doors are closed.

#### EMERGENCY STOP Switch

In emergencies the function of the EMERGENCY STOP switch is

- To safely disconnect of the control voltage supply and therefore, bring the machine to a halt.
- To halt the machine, if needed.

### 3.6 Residual Risks

If all precautions are taken, there may be obvious residual risks. Adhering to the safety instructions, the designated use, and the operating instructions as a whole can reduce residual risks!

#### DANGER

##### Danger of death by dangerous voltage

There is a residual electrical energy in lines and equipment after the system is switched off.

- Only allow qualified electricians to perform work on the electrical supply system. Turn off on the main switch. Disconnect the system from the power supply
- Replace any damaged cable. Rectify any loose connections. Correct loose connections.



## 4. Equipment Description

The biaxial mixer is a stationary mixing device for closed, tightly closing, round and oval vessels made of metal or plastic. It is suitable for mixing colours, colour concentrates, building and industrial lacquers, and other materials with low viscosity.

The area of application ranges from the colour wholesale to retail trade, the lacquer and chemical industry to any similar areas. This mixing device is especially suited as system component for colour dosing systems.

The container is automatically clamped into the machine and mixed by simultaneously rotation about its longitudinal and transverse axis.

The necessary mixing time and the suitability of the containers must be determined by mixing trials prior to use.

## 5. Set-up and using the Shaker for the first time



### 5.1 Content

The biaxial mixer is delivered with the following:

- These Operating Instructions
- A rubber band to secure the handles
- A power supply cord

### 5.2 Transport

The mixer is equipped with two transport rollers on the bottom of the housing. These transport rollers can be made to protrude out of the mixing compartment by turning a screw (1) on each side of the machine.

- Use a cordless drills or some other suitable tool size SW 17 to turn out the transport rollers on both sides of the machine.
- The door must be opened for the machine to be handled safely during transport. Secure the opened door with the hand against swinging
- Carefully tilt the mixer and move it.

When you are finished moving the machine, turn the transport rollers back.



### 5.3 Set-up the equipment

When setting up the machine, the applicable electrical requirements and the additional information in this Operating Instructions must be followed.

The machine is delivered on a wooden pallet packaged in recyclable cardboard. Check the packaging immediately upon receipt and the equipment when unwrapping it for any visual external defects. Keep all parts of the original packaging for a possible necessary return.

Remove the machine from the pallet with a suitable lifting tool and place it on solid and level ground.

Adjust any unevenness in the floor with the height-adjustable legs (11).

Do not operate the machine on the shipping pallet or on any other suitable sub-surfaces.



*Machine legs*

### 5.4 Trial run

A trial run with an empty mixing container must be conducted when first starting the machine or after maintenance and repair work in order to check the proper function of the machine.

#### WARNING

##### Risk of injury due to protruding parts

Parts may protrude from the equipment.

- Always work diligently on the equipment and in close proximity of the equipment.
- If the machine is not used and turn it off on the main switch.



## 6. Operation

Prior to working with the machine, check all parts for their proper condition and function. Do not start the machine with defective or missing parts.

### WARNING

#### Risk of injury by machine parts that continue to rotate

After the machine is turned off, there are still rotating parts that can cause injuries.

- Never stop the machine by hand.



Check all safety-relevant structural components of the machine for proper function before starting it. Any defective or damaged parts must be replaced by qualified personnel prior to starting to work with it.

### 6.1 Switching on the machine

The machine is turned on using the main switch (5).

After an automatic initialisation, READY is shown on the display.

Any errors detected during initialisation are shown in text form on the display.

### 6.2 Load a container

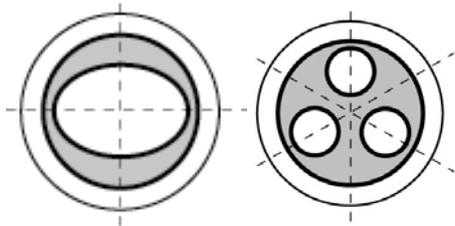
To place the container, proceed as follows:

- Open the door by pushing the DOOR button.
- Pay attention to the allowable height, weight, and dimension of the mixing container. Do not overload the machine.
- Secure the container handle with clamping rubber or an adhesive tap and centre it on the mixing table.

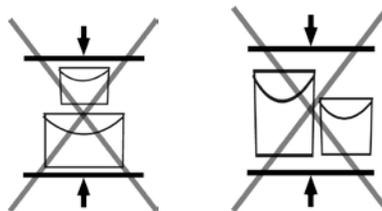
Several identical containers can be mixed at the same time. Pay attention to a symmetric arrangement of the containers on the mixing plate.



**Securing the handle with a rubber band**



**Place containers always in the centre.**



**Do not stack containers!**

### 6.3 Starting the mixing cycle

The mixing cycle can only be started after the door is closed.

- Push buttons I, II, or III to start the mixing process. The corresponding mixing times are shown on the LD display above the key pad.

The mixing container is clamped into the machine and the mixing process is started. The remaining mixing time is displayed during the mixing process.

### 6.4 Ending the mixing cycle

#### After the selected time is over

The mixing process is automatically stopped. The mixing unit is moved to the 12 o'clock position and opens automatically. The door is opened by spring force, and the container can be removed.

#### Before the selected time is over

The mixing process can be stopped early by pushing the E-button.

### 6.5 EMERGENCY STOP switch

In dangerous situations, the machine can be turned off with the EMERGENCY STOP switch. After the **EMERGENCY STOP button** is pressed, the mixing unit will coast to a standstill and remain in this position. **The mixing unit is not moved automatically to the 12 o'clock position!**

#### Reset the EMERGENCY STOP switch

The EMERGENCY STOP switch must be reset by hand.

- Rotate the red control element clockwise.
- After you reset the EMERGENCY STOP switch, reset the message in the display by pushing the E-button.

---

#### DANGER

##### Danger of death by dangerous voltage

There is a residual electrical energy in lines and equipment after the EMERGENCY STOP switch is used. The EMERGENCY STOP switch does not disconnect the machine from the mains voltage.

- If maintenance or repair work is carried out on the machine, always unplug the power cord.



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After reset of the EMERGENCY STOP switch, the mixing unit must be manually turned into 12 o'clock position in order to release the mixing container. Please follow therefore the instruction below:

### 6.5.1 MU unlocked

The mixing unit was not positioned and fixed in the 12o'clock position.

This condition occurs upon actuation of the EMERGENCY STOP button or upon interruption of the power supply during the mixing process.

```
MU UNLOCKED

Press Button
for positioning

AUTO          MANU
```

### 6.5.2 AUTO

With the container **clamped** or the mixing unit **not loaded**, the mixing unit can be automatically positioned and fixed with the help of **Button I (Auto)**

```
MU UNLOCKED

Press Button
for positioning

AUTO          MANU
```

### 6.5.3 MANU

**With the mixing container unclamped**, the mixing unit must be positioned manually.

Upon actuation of Button III (MANU), the door can be opened by pressing the DOOR button.

```
MU UNLOCKED

Press DOOR
for opening Door
```

Remove mixing unit from the mixing space and fix mixing unit manually in 12o'clock position

Quit manual positioning by pressing the E button

```
MU UNLOCKED

wait for lock MU
```

```
MU UNLOCKED

MU locked
Close Door

Press E to quit
```

## 7. Errors and Troubleshooting

The troubleshooting tables in this Chapter will help you to determine whether you can troubleshoot yourself or whether you need to call customer service.

### IMPORTANT

Jot down the serial number of the machine and the error code from the display before you call customer service. The machine's serial number is on the type plate.

### 7.1 Possible errors

Fault	Description	Machine condition	Solutions
E010	Door open	• Door open	• Close door
		• Door closed	• Check the door lock • Check the power cord / plug to the door lock.
E020	EMERGENCY STOP activated	• EMERGENCY STOP button pushed	• Release the EMERGENCY STOP
		• EMERGENCY STOP button not pushed	• Check the switch of the EMERGENCY STOP button • Check the power cord / plug to the EMERGENCY STOP button.
E050	Defective container	• Container is defect	• Container is unstable
			• Check clamping pressure, if necessary adjust
E070	Mixing Unit locked	• Latching pin blocked	• The latching pin is blocked – clean and lubricate, replace if necessary
		• Latching pin released	• Check the lead/connector to the switch of the mixing unit magnet • The switch of the mixing unit magnet is defective
E080	Mixing Unit unlocked	• Latching pin blocked	• The mixing unit is not 12 at o'clock position, see capter 6.5.1
			• Check the lead/connector to the switch of the latching pin • The switch of the latching pin is defective
		• Latching pin released	• Check the lead/connector to the switch of the mixing unit magnet • The switch of the mixing unit magnet is defective
		E120	Mixing speed too low
• The mixing unit does not rotate	• Check frequency converter • Check the door safety switch • Check the main motor		
E130	Mixing speed too high	• The mixing unit rotates too fast	• Decrease the motor speed
E150	Error clamp motor	• The mixing container is not clamped	• Check the clamp motor • Check the lines to the clamp motor • Check the control

Fault	Description	Machine condition	Solutions
E170	Error door lock		<ul style="list-style-type: none"> <li>Close door completely</li> </ul>
			<ul style="list-style-type: none"> <li>Check the door lock</li> <li>Check the connection of the door lock</li> <li>Check door motor</li> </ul>
E180	Door is not open	<ul style="list-style-type: none"> <li>The door is not open</li> </ul>	<ul style="list-style-type: none"> <li>Open door with the DOOR button</li> </ul>
		<ul style="list-style-type: none"> <li>The mixing container is clamped</li> </ul>	<ul style="list-style-type: none"> <li>Check the door lock</li> <li>Check the connection of the door lock</li> <li>Check door motor</li> </ul>
E190	Fuse blown		<ul style="list-style-type: none"> <li>Turn the machine off and wait one minute until the fuse can be pushed in again.</li> </ul>

The grey highlighted services can only be carried out by trained technicians.

## 7.2 Unlock door manually

The machine is equipped with a safety lock, which locks the door automatically after it is closed. In the event of a malfunction or power outage, the door can be locked manually.

- Remove the plastic stopper (7) from the door unlocking device.
- Use a screwdriver to turn the unlocking device in direction of the arrow.
- Open the door.



*Door unlocking device*

## 8. Cleaning, maintenance, and service

It is necessary to check, clean, and service the machine regularly to ensure continuous function. Unplug the machine from power by pulling the plug before all cleaning, maintenance, and repair work is done on the machine.

### 8.1 Cleaning

Remove any spilled mixed compound immediately from the interior of the machine. For this purpose use a rag or a scraper. Be careful not to damage any connections or sensors.

After cleaning the splash guard, apply a thin film of spray oil in order to avoid any sticking of color splashes.

Soiled threaded spindles can be cleaned with a rag or a wire brush. The threaded spindles must be re-lubricated with **Mobilux EP2** after cleaning.

#### CAUTION

##### Damage to the machine through dry run ball bearings

If you clean the machine with a high-pressure washer, the lubricant is washed out from the ball bearings and they run dry.

- Never clean the machine with a high-pressure washer or similar.
- Replace dry-run ball bearings immediately.

### 8.2 Maintenance

Only qualified personnel may carry out maintenance and repair work. Use only original replacement parts. If service is required, please consult the customer service or the manufacturer of the machine.

#### 8.2.1 Annual maintenance

- Clean the threaded spindles and lubricate with Mobilux EP2.
- Check the timing belt for wear and tear. Age conditioned lengthening of the timing belt is indicated by a twisted clamping plate (10). Elongating can be adjusted by means of the tensioner, but the timing belt has to be replaced within the next 10 hours of operation.
- Check the drive belt for wear and tear and adjust the belt tension if needed.
- Check the door lock for wear and tear. Adjust if needed.
- Check the clamping plates (3+10) for wear and tear. Replace if needed.
- Check backlash of the bevel gear set. Replace if needed.

#### 8.2.2 30,000-cycle service

The timing belt of the mixing unit must be replaced by an authorized service technician every 30,000 mixing cycles but no later than after 1,000 operating hours.

The number of cycles and the operating hours are shown on the LC display of the operating unit during the initialization after the machine is turned on.

#### DANGER

##### Danger of death by dangerous voltage

Do not open the housing or remove any safety equipment of the machine. Please note that all maintenance and servicing jobs must be left strictly to authorized and suitably trained expert staff. The proper state of all safety equipment and electrical equipment is to verify and document after the repair.

- Only use original spare parts.
- Do not modify or change safety-related parts!
- Any additional components added may not impair safety and must be approved by the manufacturer.
- Use of suitable personal protective equipment.



Splash guard



## 9. Storage, disposal

### 9.1 Storage

The storage area should be cool and dry in order to prevent corrosion on the individual parts of the machine.

The room temperature of the storage area must be constantly above freezing.

- Package the device to prevent any damages through outside impacts during storage.
- If necessary, use cardboard and other packaging material.
- Secure the machine against unintentional tilting and instability.

### 9.2 Disposal

The transport package is made of recyclable material. Please dispose this material accordingly.

At the end of the useful life, the machine must be properly disposed to return the used raw materials to the recycling loop. Please contact the manufacturer directly for any questions concerning disposal.

## 10. Accessories

The following accessories are available for the device:

Part	Article no.:
Bag, each with 10 pieces of rubber for the handle safeguard 200 mm Ø	61326
Bag, each with 10 pieces of rubber for the handle safeguard 160 mm Ø	61327
Bag, each with 10 pieces of rubber for the handle safeguard 140 mm Ø	61328

## 11. Appendix

### 11.1 Technical Specifications

<i>ROTA 400</i>	
Power supply:	220-230V 50/60Hz
Rated power:	1,1 kW
Device fuse:	10 A
Line fuse:	16 A C (RCD Typ B)
Speed of mixing unit:	- 145 rpm*
Mixing weight:	max. 35 kg
Container height:	60 - 400 mm
Container diameter:	max. $\varnothing$ 360 mm
Machine weight:	215 kg
Dimensions (w x d x h):	780 x 987 x 1186 mm

#### Noise emission in accordance with 2006/42/EG

Sound pressure level $L_{pA}$	64 dB re 20 $\mu$ Pa
Sound power level $L_{WA}$	75 dB re 1 pW
Uncertainty $K_{pA+WA}$	3 dB

\* depending on the container

### 11.2 Warranty

For your rights in the event any rectifications become necessary, please read our General Delivery Terms and Conditions.

You find these on our website [www.collomix.de](http://www.collomix.de). We are happy to send you our General Delivery Terms and Conditions on request.

### 11.3 EC Conformity Declaration

We hereby declare that the product is in compliance with the following standards or normative documents:

EN 60204-1:2006 + A1:2009 + AC:2010, EN ISO 12100:2010, EN ISO 13849-1:2008 + AC:2009, EN 55011:2009 + A1:2010, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 61000-6-2:2005 + AC:2005

In accordance with the requirements of the guidelines: 2006/42/EC, 2004/108/EC (→19.04.2016), 2014/30/EU (20.04.2016→), 2011/65/EU

Please request technical information from: Collomix GmbH, Abt. Technische Entwicklung, Daimlerstr. 9, 85080 Gaimersheim, Deutschland

Gaimersheim, 30.03.2016

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**IMPORTANT**

This declaration of conformity will lose its validity if any changes or modifications are made to the machine without the manufacturer's approval.

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