

## Operating instructions (Original Operating Instructions – German)

# FORCED-ACTION MIXER COLLOMATIC XM 2-650 COLLOMATIC XM 3-900

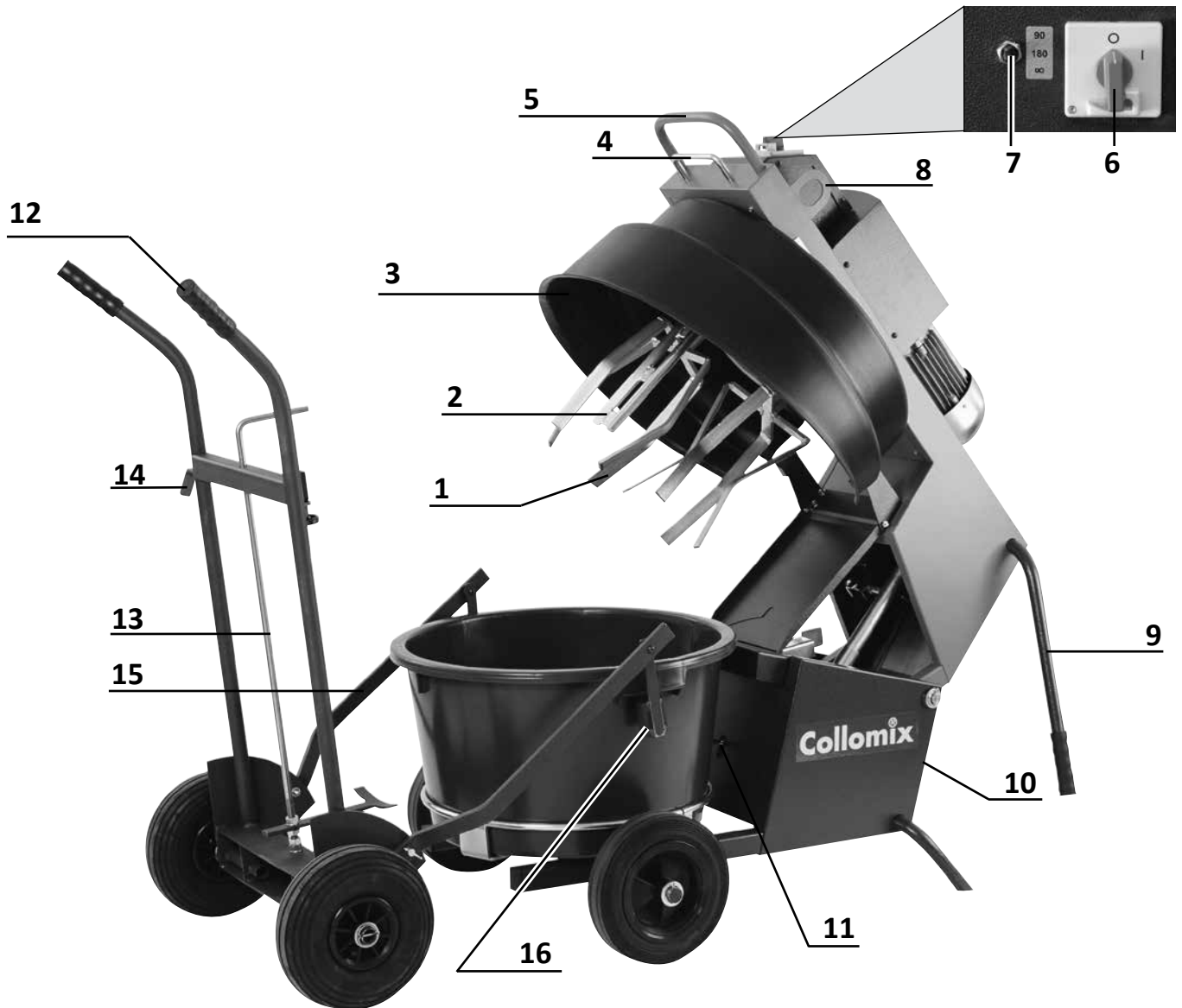


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**1. Overview**



**Drawing explanation**

- |  |                                       |
|--|---------------------------------------|
| 1. Mixing tools                              | 9. Carrying handles, lockable         |
| 2. Rim scraper                               | 10. Connector plug                    |
| 3. Protective hood                           | 11. Control pin for the mixing bucket |
| 4. Lock bar                                  | 12. Transport trolley (accessories)   |
| 5. Handle                                    | 13. Axle bracket with bucket stop     |
| 6. <b>Main switch / EMERGENCY OFF switch</b> | 14. Bucket holder                     |
| 7. Time selector switch                      | 15. Cantilever                        |
| 8. Crane eye (2x)                            | 16. Container receptacle              |

## 1.1 Technical data

Type:	COLLOMATIC XM2-650	COLLOMATIC XM2-650	COLLOMATIC XM3-900
Mains voltage:	230 volts	400 volts	400 volts
Rated output:	1.1 kW / 50 Hz	1.5 kW/50 Hz	1.5 kW/50 Hz
Protection:	16 amps. slow	16 amps. slow	16 amps. slow
Motor protection class:	IP 54	IP 54	IP 54
Speeds of tools	2 x 185 rpm 1 x 670 rpm	2 x 185 rpm 1 x 670 rpm	2 x 185 rpm 1 x 670 rpm
Scraper speed	37 rpm	37 rpm	37 rpm
Adjustable mixing times:	90 / 180 sec. / Continuous operation	90 / 180 / Continuous operation	90 / 180 / Continuous operation
Total weight:	approx. 105 kg	approx. 105 kg	approx. 117 kg
Sound pressure level:	70 dB (A)	70dB (A)	70dB (A)
Sound power level:	< 85 dB (A)	< 85 dB (A)	< 85 dB (A)

### Manufacturer:

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## 1.2 EC declaration of conformity

We hereby declare on our sole authority that this product complies with the following standards or normative documents: EN 12100, EN 60745-1, EN 55014, EN 60204, EN 61000-4; EN 50581:2013-02 according to the provisions of directives 2014/30/EU, 2006/42/EG, 2011/65/EG

### Technical documentation to be requested from:

Collomix GmbH, Technical Development Department, Daimlerstr. 9, 85080 Gaimersheim, Germany,

Alexander Essing  
Collomix GmbH, 2016-05-18



## **2. Explanation of the technical terms used**

### **Direction of rotation**

Direction in which the gearbox and the mixing tools rotate at three-phase current (only 400 volts)

### **Limit switch**

Electric switch that switches a function on or off when the final position of a moving machine part is reached.

### **Potentially explosive atmosphere**

The amount of flammable substances in the room air is so high that this can be ignited at any time by an open flame or sparks.

### **Earth leakage circuit breaker**

Specially marked power distributor with special protective function, which protects against fault currents (residual current protective device).

### **H 07 RN-F**

Type designation according to EC directive of a corresponding rubber hose supply line for higher mechanical stresses

### **Cross section 2.5<sup>2</sup>**

Cross section of a copper wire in the power cable

### **Edge scraper**

Tool that continuously moves along the edge of a container and pushes the material back to the middle of the container.

### **Feed point**

Socket where the electricity is drawn

### **Spindle**

Threaded connection on the gearbox, for screwing on the mixing tools

### **RPM**

Revolutions per minute

### **VDE**

Association of German Electrical Engineers, also a recognised testing institute

### **Viscosity**

Flow behaviour of material, low viscosity = thin,  
high viscosity = thick, slow-flowing

### **Supply line**

Power cable

### **Forced-action mixer**

Mixing device with counter-working mixing tools as well as an edge scraper, which is evenly guided through the mix.

### 3. Safety Instructions

At the time of its development and production, the device is built according to the applicable and recognised rules of technology and is considered operationally safe. However, this device may pose hazards if it is used by improperly trained personnel improperly or not as intended. **The machine may therefore only be used and maintained by persons familiar with the operating instructions and the applicable regulations regarding occupational safety and accident prevention.**



- **Read and observe this information prior to using the device! Non-observance can result in direct consequences for your health and physical integrity, as well as for the health and physical integrity of third parties.** The notes are marked in the text with the danger symbol.
- The machine may only be used in proper technical conditions as well as for the intended purpose and in a safety- and danger-conscious manner. In particular, damage that can impact the safety must be corrected immediately!
- Wear tight-fitting clothes, safety shoes and no jewellery during work. Wear a hairnet for long hair.
- Ensure the device is secured safely.
- The machine operation and loading only occur from the front.
- Keep unauthorised persons away from your workplace.
- Refrain from any working methods that are critical to safety!
- Observe the electrical regulation at the usage location when setting up the device.
- **Always pull the mains plug during non-operation of the machine, maintenance or when replacing the mixing tool!**
- Do not disconnect the plug from the socket by pulling on the cord. Protect the cable against heat, oil and sharp edges.
- Only use approved cables that are labelled accordingly when working outside.
- Do not connect the device to standard electrical sockets. Connection only via a special supply point, such as site power distributor with earth leakage circuit breaker.
- If a cable reel is used, the cable must be fully unwound. There is a risk of a cable fire due to heating. A loss of power may occur as well, leading to the undervoltage protection being triggered.
- Before switching on, check that the tool keys and other objects are removed from the mixing bucket.
- Do not mix any materials with a flash point below 21 °C. Also do not use any solvents with a flash point below 21°C for cleaning. Risk of explosion! Do not operate the device in rooms with a potentially explosive atmosphere. Risk of explosion!
- Only remove material samples with the device at a standstill.
- **Do not put the device into operation if the protective cage or housing parts are missing. Risk of crushing!**
- **There is an acute risk of accidents and injuries if the safety functions are disabled on purpose. This also voids the warranty.**
- Use the transport trolley only to transport the suitable original Collomix mixing bucket.
- Only grab the provided handle element to open and close the device. There is a danger of crushing in other places.
- Only replace a defective gas pressure spring with a new one. The gas pressure spring may not be opened. It is under pressure. Danger of injury!
- Always ensure the unrestricted movement of the control pin and the flawless function of the limit switch. Dirt must be avoided at all costs! A malfunction can lead to the unintentional start-up of the mixing tools. Risk of crushing!
- If the machine is raised with a crane or similar, the carrying ropes/straps or hooks are only to be attached at the described points on the device. Do not stand under the suspended load.
- Only use original spare parts for replacements.





### **3.1 Operator's responsibility**

These operating instructions must be stored in the immediate vicinity of the device and always be available to the persons working with the device.

The device may only be operated in a technically flawless and operationally safe condition. The device must be checked to ensure it is intact before every start-up.

## 4. *Intended use*

The forced-action mixer is an electrically-driven, mobile mixing device. Its design makes it possible to use it outdoors as well as in closed rooms. Thin as well as heavy, viscous building chemical materials, such as all types of mortar, concrete, adhesives, clay mortar, levelling and epoxy resin masses, multi-component building materials as well as materials for refractory and acid-proof construction can therefore be prepared. The device is used in the entire main and ancillary construction trade, in renovation as well as in special building companies or industry.

**Any use beyond the intended use and/or any other type of use of the device is prohibited and is considered improper.**

The drive occurs via an electric motor and is transmitted to a planetary gear. It is translated into different speeds there and transmitted to the mixing tools as well as the edge scraper. The speeds are as follows:

Edge scraper:	37 rpm
Mixing tools:	2 x 185 rpm
or:	1 x 185 rpm und 1 x 670 rpm

Two counter-running mixing tools work in the mixing vessel which are simultaneously guided around their own axis and the middle of the gear through the mix. The edge scraper guided along on the edge of the vessel presses the mixed material from the edge back to the middle of the vessel. This achieves a very thorough and quick mixing of the material.

The transport trolley (accessories) is used so that one person can easily insert and remove the mixing bucket. At the same time, thin material can easily be poured out with the pouring device on the transport trolley.

The numbers set in brackets that are specified in these operating instructions text refer to the overview on page 2.

### 4.1 *Liability and warranty*

As part of the delivery conditions, the manufacturer offers a 12-month warranty in single-shift operation from the time of commissioning. This includes all defects that have occurred due to material or manufacturing faults. Please enclose proof of purchase in case of a warranty claim

Any warranty work may only be performed by appropriately trained service technicians or third parties only after having received express approval from Collomix. Repairs performed by unauthorised persons may void the warranty.

Please send defective parts or machines to our plant postage or carriage paid. Collomix reserves the right to decide on a free spare parts delivery. The parts and working time covered by the warranty will be reimbursed free of charge. If warranty services are to be rendered outside the company, travel times, travel expenses and any accommodation costs are not covered by the warranty.

Additional claims, in particular claims for damage, including lost profits or other financial losses of the customer, are excluded.

Any warranty and liability claims are excluded in the case of personal injuries and/or material damage, if they are caused by one or several of the following causes:

- Improper use of the machine according to the operating instructions
- Faults or damage due to an unusual high level of dirt or due to lack of cleaning.
- Operating the machine with defective safety and protective devices
- Ignoring the notes in the operating instructions regarding installation, commissioning, operation and maintenance of the machine



## 5. Transport information

### 5.1 Delivery

The machine is delivered packaged on a pallet. The net weight is approx. 105 kg. The machine's centre of gravity is as is shown in the image adjacent.

Do not try to move the machine from the pallet on your own. Get help from additional people or use lifting equipment.



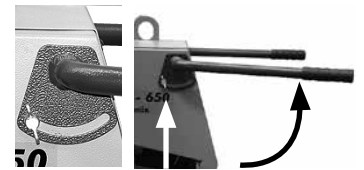
Machine's centre of gravity

### 5.2 Moving the machine manually

The machine can be moved easily on flat surfaces.

For this purpose, fold out the support spar and tighten it with the wing screw (image). It is necessary to secure the carrying handles, since the machine may tip forward in the raised state, especially when on uneven ground (centre of gravity).

Hold the machine by the carrying handles with both hands, lift it and move it similar to a wheelbarrow.



That's how to move the device manually

### 5.3 Transport by crane or lifting gear

If the machine is moved with a crane or similar lifting gear, ensure the carrying strap is sufficiently dimensioned. The machine has 2 crane eyes. Guide the sling through both crane eyes.



## 6. Disposal

The machine can be disposed of through the public collection points for electronic scrap in Germany and in Austria.

If this is not possible, disassembled components can be recycled after proper disassembly. Do not dispose of electrical appliances or electrical components through the household waste.



## 7.0 Transport trolley (accessories)

The transport trolley (accessories) is used for inserting and removing the mixing bucket in the machine. At the same time, thin material can conveniently be poured out at the location using the locking device of the transport trolley.

As a standard, the transport trolley is supplied to fit the 65-litre bucket. The upgrade kit with the two larger supports must be mounted for the 90-litre bucket.

### 7.1 Assembly of the 65-litre transport trolley

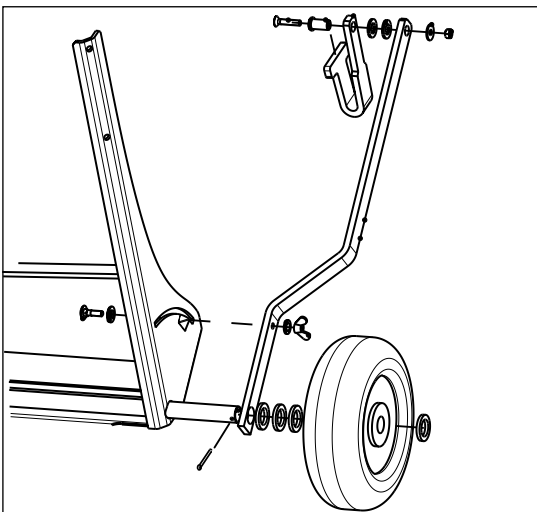
First remove the cable ties from the moving parts.

Attach the two handle ends and tighten each with a screw.

Tighten both cantilevers with the corresponding wing screw.



### 7.2 Assembly of the 90-litre transport trolley (upgrade kit)



Both cantilevers must be switched out to make the transport trolley suitable for the 90-litre bucket.

For this purpose, remove the wheel and the vessel receptacle, replace the cantilever and re-assemble in the reverse order.

### 7.3 Handling

- Grab the transport trolley by both handles
- Drive with both vessel receptacles under the bucket and hook these into the griphandles on the bucket.
- Apply counter-pressure to the axle using one of your legs. Make sure that the bucket is correctly positioned.
- Now tilt the transport trolley towards your body until you are in balance with the bucket.
- If you are using **thin materials, you can use the locking device to pour these out:**
- Pick up the bucket as described above. Then place the transport trolley on the ground lengthwise. The bucket will swing freely.
- First turn the bucket holder so that its handle is vertically upwards.
- Then set the bucket stop vertically. The hook of the bucket reaches over the edge of the bucket and secures the bucket. The bucket is now locked.
- Now slowly pick up the trolley. As soon as you have reached the corresponding angle, the material will flow out of the bucket.
- Once done pouring out, set the trolley down again and loosen the bucket holder and stop.

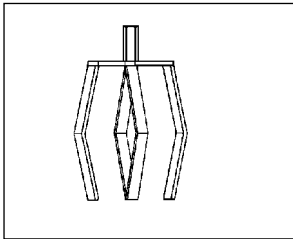


Using the pour out device

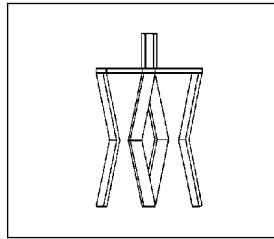
## 8. Mixing tools

Your forced-action mixer is supplied with three different mixing tools (standard: Universal mixing tools and dissolvers). In this way, you can prepare materials of all viscosities.

### 8.1 Equipping options



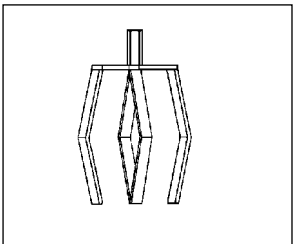
Universal mixing tool  
XM 160 (70.153)



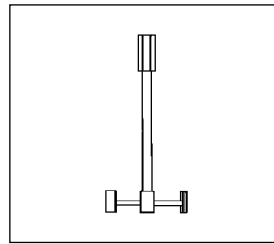
Universal mixing tool  
XM 195 (70.155)

Both mixing tools turn at 185 rpm. With this equipment, you can mix all high-viscosity, tough and heavy materials, such as

- Dry mortar
- Quartz-filled epoxy resin
- Fine concrete
- Refractory and acid-proof materials
- Putties
- Screed
- Ceramic bodies
- Acoustic plaster
- Clay mortar
- 2- and multi-component materials



Universal mixing tool  
XM 160 (70.153)



Dissolver ST 160 (70.157)

Use this equipment if you want to prepare thin material or very light-weight material that tends to form lumps. The XM 160 tool turns at 185 rpm. The dissolver turns at 670 rpm, e.g.

- Self-levelling materials
- Floor coatings
- Flowing mortar
- Multi-component material
- Fluid plastics
- Slurries
- Dispersions
- Lime gypsum plaster

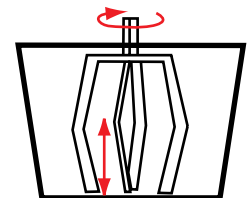
Three threaded spindles are available for the mixing tools. Both spindles for the universal mixing tools turn at 185 rpm and have an M 18 thread.

The third threaded spindle turns at 670 rpm for the dissolver. This spindle has an M 16 thread to prevent an incorrect loading.

### 8.2 Height adjustment of the mixing tools

The mixing tools are height-adjustable to avoid material residues on the bottom of the bucket. For this purpose, loosen the hexagon nut on the gear spindle and move the mixing tool up or down by turning to the left or right.

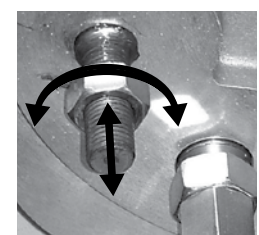
The mixing tools should be about 1 - 2 mm above the bottom of the bucket. If they are set too low, they will rub against the bottom of the bucket and destroy it.



Height adjustment of the  
mixing tools

### 8.3 Changing the mixing tools

The mixing tools are factory-mounted and set. To remove them, slightly loosen the fixing nut using the open-end wrench. Counter-hold the mixing tool using the second open-end wrench. Unscrew the mixing tool.



If no tool will be attached to this threaded spindle at the moment, screw on the corresponding threaded plug to prevent dirt from entering. Note the different thread sizes M 16 and M 18.

If a mixing tool will be screwed onto the spindle, check the spacing between the tool and the bottom of the bucket. The tool may not rest on the bottom of the bucket! Now tighten the locking screw against the mixing tool.

## 8.4 Edge scraper

The edge scraper is factory-set. If readjusting, ensure that the arm of the edge scraper does not touch the edge of the bucket. Adjust the scraper to be as close as possible to the edge and bottom of the container. However it may not be touching. Adjustment using the hexagon nut.



## 9. Using the correct mixing bucket

To ensure flawless operation and to achieve consistently good mixing results, it is important to use the original mixing bucket.

This is a round 65-litre or 90-litre plastic bucket made of impact-resistant PE material.

Buckets from other manufacturers usually do not have the same dimensions. This impairs the function of the edge scraper. With taller buckets, the machine may not close.

You can obtain the right original buckets from your specialist dealer.

The machine will not start without the mixing bucket inserted!



65-litres black, 60403



90-litres white, 60261

## 10. Power connection

Before connecting the machine to the device plug, make sure that the following points are fully met:

Before commissioning, make sure that the electrical regulations for the location are met. Ensure that the cable and electrical equipment cannot be damaged during operation.

Do not connect the machine to a household socket. Only connect it via a suitable power supply point (e.g. site power distributor) with earth leakage circuit breaker with a maximum of 0.05 amp release current.

For this purpose, only use rubber cables suitable for the application, type H07RN-F, cross-section 2.5 mm<sup>2</sup> with a flawless cable plug.

When using a cable reel, always unroll it all the way. Otherwise there is the danger of it heating up and therefore electric shock, since a coil effect may occur. There is also a danger of a cable fire.

An excessively long cable connection between the power supply point and the machine may cause a power drop. This leads to the undervoltage protection tripping.

When installing the cable, ensure that it does not pose a tripping hazard.

### ***For the 400-volt version:***

The machines have an integrated phase sequence relay. This component detects the rotational direction and automatically ensures the motor is rotating in the correct direction.



## 11. Commissioning

### 11.1 Opening and closing the device

- Grab the handle and grasp the locking bar. Pull this toward you. The lock will open.
- Pull the swivel arm upwards.
- The device is now in the opened state in front of you. There are 2 open-end wrenches in the mixing bucket and another mixing tool. Remove the parts and make sure that the bucket is empty.
- To close the device, operate the locking bar again as described again.
- Press the swivel arm down.
- Release the locking bar and it will lock in place by itself.



### 11.2 Switching on

- The device is in the opened state.
- The mixing bucket is filled and placed in the machine using the transport trolley. The bucket must be correctly positioned in the bucket receptacle.
- Switch the main switch to "1".
- Unlock the swivel arm and press down until it locks into place.

If the machine is disconnected from the mains in the closed state or is stopped by hand, it must be opened up all the way again first. Only then will the mixer start again.



Switching on the main switch

### 11.3 Stop

After the set time cycle ends, the machine will switch off on its own. The main switch remains on "1". If you close the machine again, the set time cycle will start again from the beginning.

If the cycle " $\infty$  duration" is set, the machine will stop when opened or the machine must be switched off manually. For this purpose, set the main switch from "1" to "0".

If you open the swivel arm during the mixing process, the machine will stop immediately. The main switch remains on "1". If you close the swivel arm again, the machine will start again. It begins to run again from the start at the set timing cycle.

After opening, remove the mixing bucket using the transport trolley.

#### NOTICE:

Note the material manufacturer's working s.

If there is hardened material in the mixing bucket or if the mixing tools are stuck, do not operate the machine.

Remove material samples only when the device has come to a complete standstill.

## 11.4 Setting the time selector switch

The time selector switch is located on the machine's front panel.

Position "**90**"                    mixing tool operation 90 sec., switches off automatically

Position "**180**"                mixing tool operation 180 sec., switches off automatically.

Position "**∞ duration**"        switch on and off manually, no automation

**NOTICE:**

When mixing unknown material, determine the required mixing time during the first mixing operation. With the right time setting, you will always achieve uniform correctly mixed material.



## **12. Description of the protective devices**

The protective devices mentioned are installed in this machine for your personal safety and that of others. Always make sure they are functioning fully. In case of defective protective devices, do not operate the machine.

The intentional removal or decommissioning of protective devices is a punishable offence and may result in incalculable dangers for the user. It also voids any warranty for the device.

### **12.1 Protective cage**

The gears and the mixing tools are secured against direct access with a protective cage firmly attached to the device frame. The mixing tools already begin to operate before the machine is completely closed. The remaining angle of opening between the swivel arm and the top edge of the bucket is covered by the protective cage. We also would like you to note that it is prohibited to reach between the protective cage and the bucket during closing and opening. The protective cage has an opening on its top side that is protected by a grate, which is used to visually inspect the interior.

### **12.2 Safety circuit**

The control pin releases the machine via a limit switch as soon as there is an appropriate bucket in the machine. If there is no bucket in the device, this cannot be started. Always ensure the control pin moves easily and avoid dirt. It is prohibited to bypass the switch or press it by hand if there is no bucket in the machine.

### **12.3 Main switch / EMERGENCY OFF switch with undervoltage tripping**

The main switch is an EMERGENCY OFF switch and also has an undervoltage tripping device. Set the switch to "0". The machine has thus been fully shut down. The undervoltage tripping device ensures that the switch automatically moves to "0" in the case of undervoltage. This is primarily intended to avoid an unintentional re-start.

This may be justified in the following cases:

- in the case of a power failure
- if the cable is pulled from the plug
- in case of a voltage drop in the power supply
- in case of the drive unit overheating. Allow the drive to cool down, try again, reduce the mixing amount if necessary



### 13. Troubleshooting

Malfunctions may occur during operation. The following is a checklist to determine the cause. If there is an electrical defect or major damage, only have this corrected by a professional.

Malfunction	Cause	Remedy
<b>Machine does not start</b>	<ul style="list-style-type: none"> <li>• Supply cable too long and/or cable cross-section too small</li> <li>• Plug not inserted</li> <li>• No mains voltage present</li> <li>• Main switch is on "1"</li> <li>• Main switch on "0"</li> <li>• No mixing bucket in the device</li> <li>• Wrong mixing bucket inserted</li> <li>• Defective starting capacitor (<b>only 230 V</b>)</li> <li>• Defective operating capacitor (<b>only 230 V</b>)</li> </ul>	<ul style="list-style-type: none"> <li>• Check cable cross-section, must be 2.5 mm<sup>2</sup>, shorten supply cable</li> <li>• Insert plug</li> <li>• Check mains voltage</li> <li>• Open the machine again and close again</li> <li>• Main switch to "1", open machine and close again</li> <li>• Correctly insert the mixing bucket</li> <li>• Use the correct mixing bucket</li> <li>• Replace starting capacitor</li> <li>• Replace the operating capacitor</li> </ul>
<b>Machine switches off after a short time , cannot be switched on again</b>	<ul style="list-style-type: none"> <li>• Bimetal triggered (overload of the machine)</li> <li>• Supply cable too long and/or cable cross-section too small</li> <li>• Cable was pulled from the mains plug</li> <li>• Voltage drop in the power supply</li> <li>• Defective starting capacitor (<b>only 230 V</b>)</li> <li>• Defective operating capacitor (<b>only 230 V</b>)</li> </ul>	<ul style="list-style-type: none"> <li>• Let machine cool down (at least 2 min), reduce mix as needed</li> <li>• Check cable cross-section, must be 2.5 mm<sup>2</sup>, shorten supply cable</li> <li>• Insert cable again</li> <li>• Check mains voltage</li> <li>• Replace starting capacitor</li> <li>• Replace the operating capacitor</li> </ul>
<b>Damage to the mixing bucket, or the mixing tools, material residue on the bottom</b>	<ul style="list-style-type: none"> <li>• Mixing tools are set too deep.</li> <li>• Adjust the edge scraper</li> <li>• Mixing tools set too high</li> </ul>	<ul style="list-style-type: none"> <li>• Set the height of the mixing tools correctly (see chapter 8.2)</li> </ul>

## 14. Care and maintenance

Observing this information ensures you will be able to use the device for a long time and guarantees you a flawless functioning of your forced-action mixer

Disconnect the mains plug for all maintenance and repair work on the device.

After **100 hours of operation, all moving parts must be oiled or greased**. Check all moving parts to make sure they move with ease.

Clean the device, the mixing tools and the bucket thoroughly after use. **Do not use any solvents with a flash point below 21°C for cleaning**. Clean the mixing tools easily and quickly by using a bucket of clean sand or similar and switch on the device for about 30 seconds.

**Do not clean the device itself with a water hose or high-pressure cleaner**. This may cause the ball bearings, etc. to run dry.

Replace damaged or bent mixing tools.

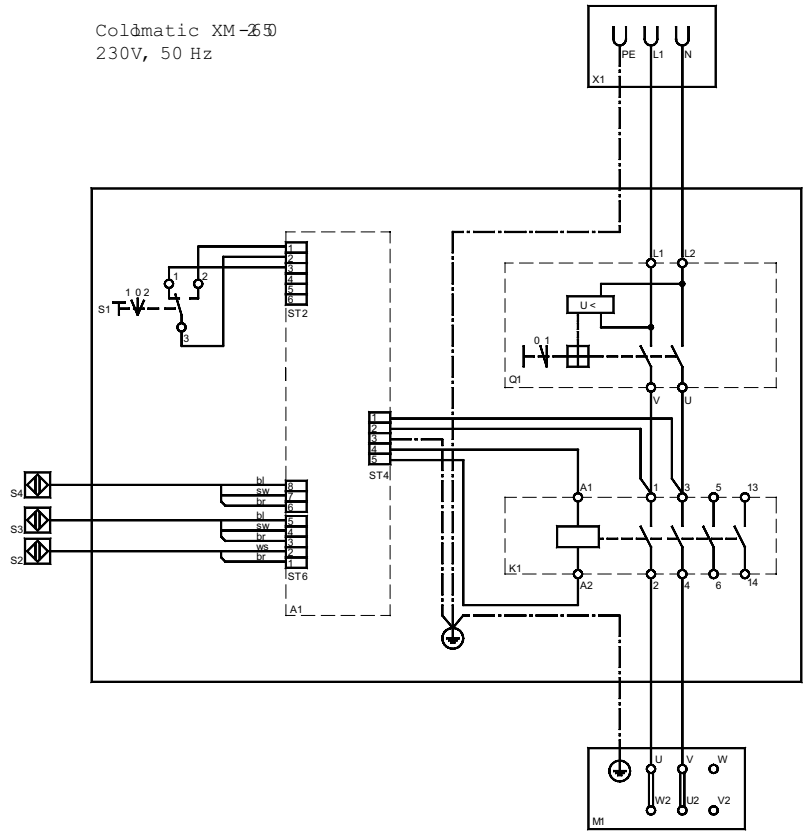
Always ensure the unrestricted movement of the control pin and the flawless function of the limit switch. Dirt must be avoided at all costs! In case of malfunctions and obvious damage, do not operate the machine. Have faults rectified by a recognised specialist.

Only use original spare parts.

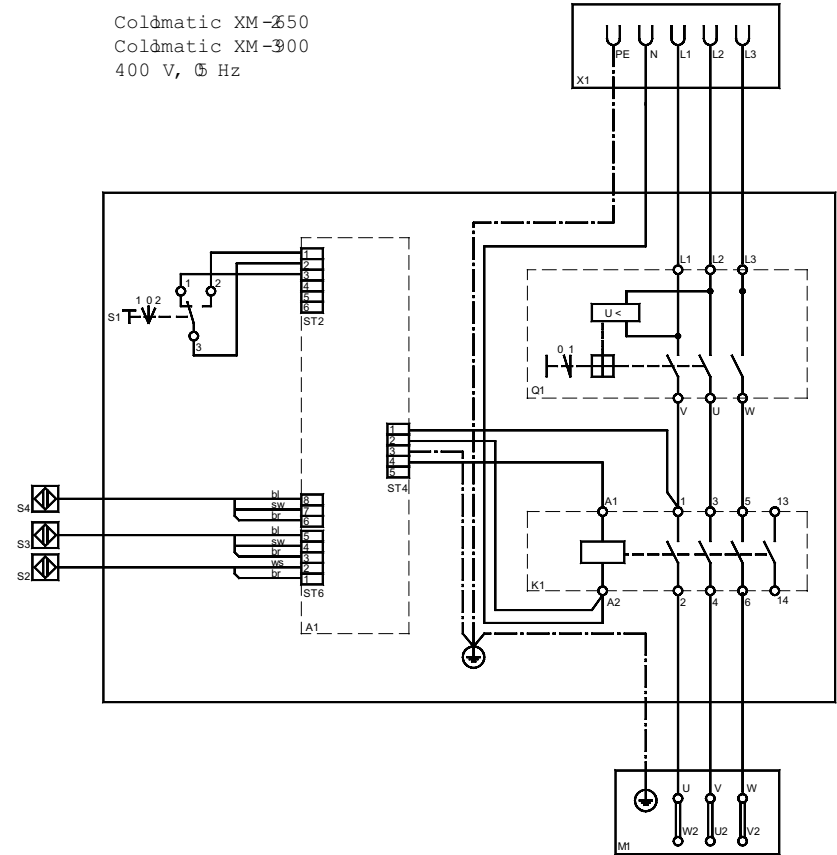
Only have repairs performed by recognised specialists. The manufacturer also offers a repair service in the plant.

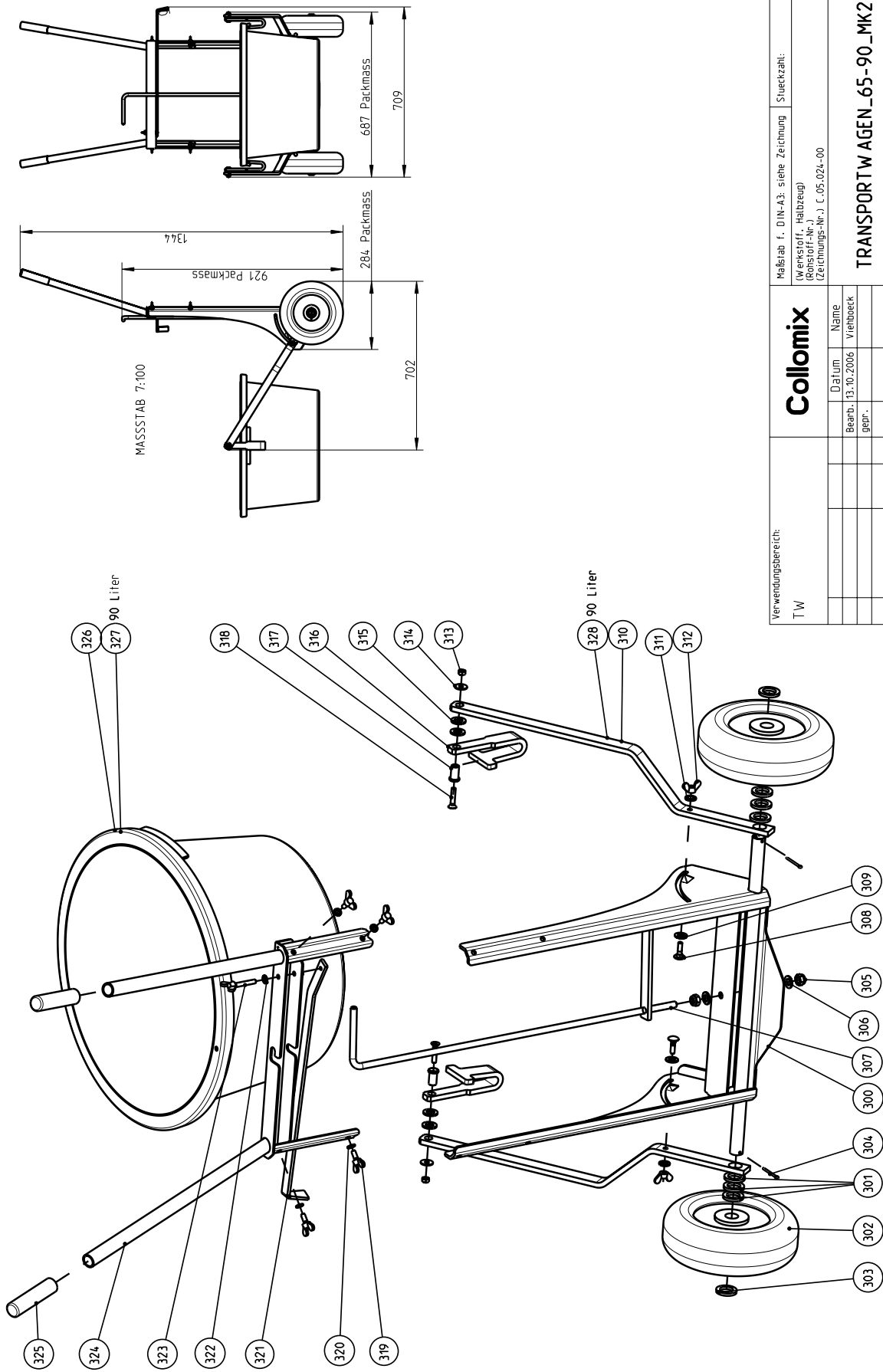


**15. 1 circuit diagram - 230 volts, 50 Hz**



**Circuit diagram - 400 volts, 50 Hz**





Verwendungsbereich: TW	<b>Collomix</b>		Maßstab f. DIN-A3: siehe Zeichnung		Stueckzahl:
			(Werkstoff: Halbzeug)		
			(Zeichnungs-Nr.): C.05.024-00		
	Datum	Name	TRANSPORTWAGEN_65-90_MK2		
	Bearb. 13.10.2006	Vrenboeck	Allg. Fertigungsmaeßnahmen nach DIN ISO 2768 m		
			(Ausnahmen siehe Zeichnung)		
			Blatt 1		
			von 1 Bl.		
			Ruehr- und Mischgeraete GmbH		
			Modellname: TRANSPORTWAGEN_MK2		
Zust.	Aenderung	Datum	Name		