RoboLabs

Incredible machines for fastfood & funfood

Caramel coating machine
SugarLips 100
(CP-100SU)

400 V 50 Hz

User manual

Read this manual before use and keep for future reference!

PDF version of this manual is available on www.robolabs.pro

Safety requirements

This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠DANGER

- Not grounded equipment can cause electric shock. Power outlet **MUST HAVE** proper grounding to avoid electric shock.
- Using excessive water during cleaning can cause short circuit and electric shock. **DO NOT USE** excessive water or water jet for cleaning. **DO NOT SPILL** water on electric panels or parts.
- **ALWAYS** unplug equipment before cleaning or servicing.
- No user serviceable parts inside. **DO NOT OPEN** electric panel unless you are qualified for this.

⚠WARNING

- Kettle, caramel and end product might be very hot. Direct contact to kettle or products might cause serious burns. **DO NOT TOUCH** kettle and product.

⚠WARNING

- Mixer starts automatically. Rotating mixer can crush. **DO NOT REACH** into the kettle while in operation.

⚠WARNING

- Wear appropriate slip-resistant footwear.
- Clean up spills immediately after discovery.

⚠WARNING

- Swivel casters **MUST BE ALWAYS** locked unless the machine needs to be moved.

⚠WARNING

- Using heavy or abrasive products may get machine fault. DO NOT use machine for mixing heavy or abrasive products.

⚠WARNING

- Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury, or death! Read and understand this manual before use.
- Only instructed personnel is allowed to operate the equipment.

Contents

1 Overview

Caramel coating machine SugarLips 100 is used for making caramel coated popcorn (hereinafter – "machine").

Not for personal use. Professional use only.

1.1 Technical specifications

Kettle volume	300 L
Rated voltage	3 phase 208 V 60 Hz
Rated power	32 kW
Dimensions	1080x1410x2000 mm
Weight	285 kg
Airborne noise	less than 70 dBa

1.2 Delivery set

1x Machine assembled
1x Documentation set

1.3 Assembling

1. Unpack the machine carefully.
2. Remove protective film from all surfaces.
3. Wipe all surfaces with a clean soft cloth dampen with mild soap. Wipe dry immediately.
4. Install the machine at even surface.
5. Lock all four swivel casters.

1.4 Power requirements

⚠DANGER

- Power outlet MUST have proper grounding to avoid electric shock.
- If supply cord damaged, it must be replaced by manufacturer, service agent, or skilled person in order to avoid hazard!
- Connections must be done by skilled electrician ONLY!
- Equipotential bonding wire (up to 10 sq.mm) shall be connected to screw terminal on the base frame marked with IEC 5021 sign:

Machine requires 4 wire 3 phase 208 VAC 60 Hz power supply. Use NEMA 15-60P plug and receptacle to connect the machine to the mains.

1.5 Ambient and ventilation requirements

This equipment is designed to be operated at the ambient temperature from +5°C to +40°C (+41°F to +104°F) and relative humidity not more than 45% at 40°C (104°F) while using at altitudes not exceeding 1000 m over the sea level. The temperature decreasing is related to RH increasing, for example, 90% of RH at 20°C (68°F). This equipment MUST NOT be exposed to precipitations of any kind (rain, snow and so on).

A ventilation hood measuring at least 1200x1200mm must be provided above the machine, with capacity of 3000 cu.m/h or more. **NOTE: Ambient conditions have strong impact on the end product quality!**

2 Design and principle of operation

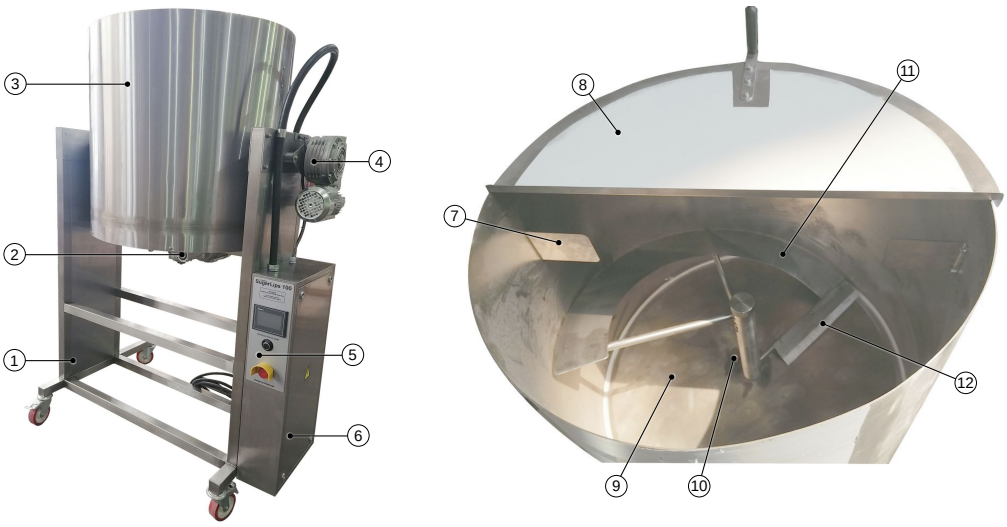

Figure 1: Main components

Main parts of the machine are shown on Fig.1. Principle of operation is as following. Operator loads ingredients of caramel in the kettle (3) installed on support stand with swivel casters (1).

Mixer (11) inside the kettle is driven by the motor with gearbox (2). Heating elements mounted in the kettle bottom (9) heat up caramel slurry. Temperature sensor (10) measures the temperature inside the kettle. Scraper (12), mounted on the low part of the mixer, ensures that caramel slurry is properly mixed. Two half-round kettle lid (8) is used in the beginning of caramel cooking process, allowing steam to be accumulated in the kettle and clean the sidewalls, and also during the cleaning procedures. Control panel (5) is used to control the machine.

Once the caramel is ready, operator loads popped popcorn in the kettle and machine starts to mix the popcorn with caramel. Mixer (11) and two deflectors (7) ensure proper mixing process.

Once popcorn is properly coated with caramel, motor with gearbox (4) tilts the kettle, so popcorn is discharged onto a cooling table (not included in the delivery set), or other suitable receiving device.

2.1 Control panel

The control panel of the machine is shown on Fig.2.

- **Main switch** (1) The main switch has three positions:
  - OFF Set to turn the machine off.
  - CARAMEL Set to turn the machine on for operation or cleaning procedures.
  - TWEAKING Set to adjust parameters of the machine.
- **Temperature regulator** (2) Temperature regulator controls the heating process.
- **HEATING button** (3) This button is used to start caramel cooking process, and to adjust mixer ON timer.
- **MIXING button** (4) This button is used to start mixing process, and to adjust mixing stage duration.
- **DUMP button** (5) This button is used to dump the kettle, and to adjust the mixer OFF timer.
- **RAISE button** (6) This button is used to get the kettle back to straight position, and to adjust dump mixer timer.
- **Emergency stop button** (7) This button is used to stop machine immediately at any moment.

Figure 2: Controls

3 Intended use

⚠WARNING

- **Burn hazard.** Kettle, caramel and end product might be very hot. Direct contact to kettle or products might cause serious burns. **DO NOT TOUCH** kettle and product.

⚠WARNING

- **Crush hazard.** Mixer starts automatically. Rotating mixer can crush. **DO NOT REACH** into the kettle while in operation.

1. Put water, sugar, premix, in the kettle. Close the lid.
2. Set the main switch to CARAMEL.
3. Press HEATING.
4. Once steam starts coming out from under the lid, remove the lid.
5. Add oil or butter in the kettle.
6. Wait to hear sound alarm and to see MIXING blinking.
7. Press MIXING, and then add popcorn in the kettle.
8. If required by the recipe, spray lecithin over popcorn during mixing.
9. Wait to hear sound alarm and to see DUMP blinking.
10. Press DUMP to discharge coated popcorn on the cooling table (Cooling table is not included, it should be ordered separately). The mixer stops and the kettle goes down until triggering the "down" position end probe. Once the kettle in "down" position, the mixer rotates for 10 seconds, helping popcorn to escape from the kettle. If required, press DUMP again to actuate the mixer for another 10 seconds.
11. Press RAISE to bring the kettle back to straight position. Once it gets back, the machine is ready for the next batch.

Caramel recipe

Popped Mushroom popcorn	300 L
Caramel premix	7000 g
Sugar (beet or cane)	5000 g
Coconut oil (or butter)	7500 g
Water	2500 g
Free-N-Easy	30-40 squirts

4 Product quality

4.1 Temperature

Quality of caramel is directly affected by the temperature set value. In most cases, temperature set value lies between 140 to 160°C. Use the following Droplet test to find the value that gives you the best result.

- **Operating temperature is to be set by the user, not technical service.**
- **At the first use, and every time whenever the recipe is changed, it is a must to do a trial batch and adjust temperature if required.**

Droplet test

Once caramel mixture is about to reach the set value, drip a bit of caramel into a cup with cold water. Take out the piece of caramel and give it a try. Caramel should be crispy; it should not be sticky.

- If caramel is sticky then **increase** the temperature.
- If caramel has bitter or burned taste, then **decrease** the temperature.

For the second trial batch change the temperature by 5°C. For the next trial batches (if required) change temperature by 2-3°C.

4.2 Moisture content and crunchiness

Popcorn is a very hygroscopic product. After popcorn is coated with caramel and cooled down, its moisture content should not be more 1,5%. If caramel was not properly cooked and/or popcorn had too much moisture content before putting in the kettle, the ready to eat product might become sticky and chewy.

Depending on certain installation conditions, you may need to use additional equipment to keep popcorn in good condition at intermittent stages as well as the finished product.

5 Tweaking mode

Use this mode to adjust parameters of machine operation.

1. Set the main switch to TWEAKING. Indicators HEATING, MIXING, DUMP, RAISE start to blink (1 time per second).
2. Count blinks for the certain indicator to read the current value (see below).
3. Maximum blink count for each parameter doesn't exceed 10; the full blinking cycle consists of 15 blinks; so it can be clearly seen when the new cycle starts.
4. To increase the value of any parameter for the next value in the range, press corresponding push button once. If the value you want to set is lower than the current value, then press the button enough times to reach the maximal value, and then press once again to set the minimal possible value; and then finally press the button enough times to reach the desired value. The cycle starts again whenever any button is pressed. For example, the mixer off timer sets at 30 s, but you need to change it to 20 s. To do so, press DUMP 9 times.
5. After all parameters are set up, set the main switch to OFF position to save and exit.

Mixer operation time (Heating stage)

Press HEATING button to change the time the mixer rotates during cooking cycle. Available values chart (factory default is shown in box):

Blink count	1	2	3	4	5	6	7	8	9	10
Mixer on timer, s	1	2	3	4	5	6	7	8	9	10

Mixer idle time (Heating stage)

Press DUMP button to change the time mixer doesn't rotate during heating stage.

Blink count	1	2	3	4	5	6	7	8	9	10
Mixer off timer, s	10	20	30	40	50	60	70	80	90	100

Duration of mixing stage (mixing time)

Press MIXING button to change the time of mixing stage.

Blink count	1	2	3	4	5	6	7	8	9	10
Mixing time, s	30	60	90	120	150	180	210	240	270	300

Mixer operation time (in dumped position)

Defines the time the mixer is operated when kettle is dumped.

Blink count	1	2	3	4	5	6	7	8	9	10
Mixer on timer, s	0	5	10	15	20	25	30	n/a	n/a	n/a

6 Maintenance and cleaning

⚠DANGER

- **ALWAYS UNPLUG** equipment before cleaning or servicing.
- **DO NOT USE** excessive water or water jet for cleaning. **DO NOT SPILL** water on electric panels or electric parts.
- Keep power cord and plug off the floor and water.

⚠WARNING

- Hot steam coming out from under covering lid is very hot. Exposure to hot steam might cause severe scald burns. **DO NOT EXPOSE** yourself to hot steam. **WAIT** until machine is cooled down before cleaning.

⚠WARNING

- Use **ONLY** food grade cleaners.
- **DO NOT USE** aggressive cleaners.
- **DO NOT USE** sharp items, or abrasives for cleaning stainless steel surfaces.

The purpose of maintenance and cleaning is to keep machine in good condition during all the lifetime and to meet safety requirements.

6.1 Kettle cleaning

NOTE: for this procedure machine must be plugged in.

1. Pour 17-20 liters of water in the kettle and close with the lid.
2. Set the main switch to HEATING. Press HEATING.
3. Wait until water start to boil. Let it boil for 5-7 minutes, then set the switch to OFF.
4. In case of severe carbon build-ups on the kettle's bottom, use special cleaning product (Heet-N-Kleen or similar); follow instructions written on this product.
5. Let the machine to cool down. Hot steam accumulated inside the kettle effectively cleans the sidewalls.
6. **WAIT until kettle is cooled down.**
7. Put a container, suitable to collect waste water, next to the machine.
8. Carefully remove the lid from the kettle.
9. Set the main switch to HEATING.
10. Press MIXING and wait 5-10 seconds.
11. Press DUMP and let the kettle to release waste water to the container.
12. Set the main switch to OFF and UNPLUG the machine.
13. Clean kettle from inside as necessary. Remove the mixer and clean separately. After cleaning, put it back.
14. Plug the machine in.
15. Set the main switch to HEATING, and press RAISE to bring the kettle back in the straight position.
16. Set the main switch to OFF.

6.2 Outer surface cleaning

1. Unplug the machine.
2. Clean outer surfaces of the machine with a clean soft cloth or sponge dampened with cleaning solution.
3. Wipe dry immediately.

6.3 Conservation

If machine is not used for long time, perform all cleaning procedures.

6.4 Transportation and storage

The equipment may be transported by any kind of covered vehicle, in accordance with transportation rules for this kind of vehicle. Ambient temperature during the transportation and storage must be between minus 25°C and +55°C.

7 Quality control check

SugarLips 100, CP-100SU

Product name, model	Serial no.

The equipment is made with accordance to mandatory requirements of the state standards, actual technical documentation, and approved for use.

QC Engineer

STAMP HERE

Signature	Full name

DD.MM.YYYY

8 Warranty obligations

The manufacturer guarantees trouble-free operation of the equipment during 12 months from the date of receiving the equipment by a dealer (in accordance with transport documentation); or, in case of purchase directly through Trapeza LLC or RoboLabs Ltd., from the date of purchase, given that terms of using, transportation, and storage are met.

The warranty repair is performed upon presentation of this manual and filled warranty card with the seller's seal and the date of sale. Technical specifications of the equipment can be changed by manufacturer at any time due to improvements and/or other reasons. Technical specifications stated in this document are intended to act as a reference point, which is necessary to evaluate suitability of the equipment for the customer's needs, and are not the subject of warranty policy.

The information stated in this document has been thoroughly checked and considered as accurate one; nevertheless, the manufacturer is not responsible for any typographical errors or misprints.

Due to constant improvement of the equipment, technical specifications are subject to change without prior notice!

9 Manufacturer details

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