



2023

COOKER & COOLER & MIXER CCM-110



The machines is a cooker&cooler&mixer used for manufacturing foodstuffs. They comply with the newest hygienic guidelines.

All parts that come into contact with the product are made of stainless steel rust free or other physiologically harmless materials. The process container with working tools driven directly can be swivelled and are mounted in the machine stand, the tipping of the bowl and cover opening are carried out electro-mechanically or manually. All periphery devices (vacuum pump, power supply, flowmeter, PLC automation) are integrated on the machine stand.

6.2. Intended application

The machine is intended for the commercial and industrial production of products. The intended application includes the specified process, the adherence of the specified specifications as well as the use of the original accessories provided or that can be ordered separately. Damage caused by non-intended use will lead to the loss of liabilities and guarantee claims.

Improper use is when:

- the modification and / or deactivation of safety equipment such as switches, locking mechanisms, covers, locking, seals, etc.
- Operating, maintaining and repairing of the machine by non-authorised and non-instructed persons (see: Definition of skilled professionals).
- Improper or the unintended use of the machine.
- Use of parts that are not original.
- Modifications made to the performance parameters that go beyond the confirmed values.
- Processing of products that have not been agreed.
- Processing of light inflammable and explosive materials.
- Processing of substances that belong to the fluid group 1 (dangerous fluids) according to 67/548/EEC
- Operating the machine beyond the inspection and maintenance cycles.
- The insertion of objects that may interfere with the movement of machine parts.
- Permanent operation that lies above the stated performance values. Permanent overstraining leads to the malfunction of individual components.
- Processing of frozen or hard blocks of raw ingredients that size and / or weight is at least above 150 mm and / or 2kg

6.3. Operating and ambient conditions

The dead weight and the vibration reduced run of the machine allow a the machine to be set up standing free.

The following ambient conditions are necessary for the machine:

- The machine must be installed on a stable floor space.
- The floor space must be level.
- The machine must be installed in closed rooms.
- The premises must be clean.
- The ambient temperature should not lie below 12°C/53°F and should not exceed 35°C/95°F.
- The minimum load rating of the installation location should not be below 800 kg/m².
- The minimum load rating in the area of the equipment feet should not be below 800 kg.

- The installation location suites the machine vibrations, the size of lateral loads can achive 30% of the machine weigh.

6.4. Machine data

Designation	Unit	Value
Bowl volume	l	110
Batch size - depending on the production (max.)	l	up to approx. 80
Operating pressure	bar	unpressurised
Main motor speed	Rpm	Max. 3000
Operating voltage	V	380
Mains frequency	Hz	50
Allowable operating temperature of the bowl	°C (°F)	95° (203°)
Allowable operating overpressure (max.) in the double jacket	bar PSI	2 29
Allowable operating temperature (max.) in the double jacket	°C (°F)	133° (271°)
Recipe water supply pressure	bar PSI	3 to 6 44 to 87
Water demand - recipe water	l/min	70
Slide ring seal supply	bar PSI	3 to 6 44 to 87
Water demand – seal water	l/min	4
Supply pressure - pneumatic device	bar PSI	8 to 10 116 to 145
Air Consumption	l/min	40
Set pressure for cover seal (where avaiable)	bar PSI	2 29
Set pressure - pneumatic device	bar PSI	6 87
Total weight of the machine (net.)	kg	950
Dimensions	mm (L x W x H)	1900 x 1100 x 2100 (+/- 35)

6.5. Guideline values for the steam connection

Designation	Unit	Value
Steam performance	Kg/h	130

Steam performance before the steam station	bar PSI	6 to 8 85 to 116
Steam pressure at the steam nozzles	bar PSI	2,5 to 3,5 36 to 50
Steam pressure in the double jacket max.	bar PSI	2 29
Steam supply line	inch	¾"

6.6. Vacuum pump

Designation	Unit	Value
Nominal suction capacity	m³/h	45
Water demand	l/min	8

6.7. Performance data

6.7.1. Energy requirement

Designation	Unit	Value
Motor	kW	18,5
Mixing baffle	kW	1,5
Vacuum pump	kW	2,2
Machine total power	kW	22,2
Water - vacuum pump	l/h	approx. 480

6.7.2. Electric Data

Designation	Unit	Value
Supply voltage	V / Hz	380/50
Main current at 380V	A	45

7. TECHNICAL DESCRIPTION

7.1. Functional Description

The machine is a universal machine particularly for the manufacture of foodstuffs. Processes such as mixing, chopping, emulsifying or kneading are possible with the help of appropriate tools.

During processing, the product is churned optimally through the tools. The mixing baffle supports churning of the product by scraping the bowl and the cover clean and putting the product in the centre of the bowl. The speed of the tools can be adjusted to suit the condition of the product.

Depending on the configuration variant, the machine is fitted with a vacuum system so that it is

possible to handle all those processes that require a vacuum.

The following machine functions are available:

- Loading
- Manual via the opened cover.
- Automatic via the dosing valve using vacuum or pumps.
- Processes
- Mixing, chopping, cutting, emulsifying, kneading.
- Indirect heating and cooling via the double jacket.
- Direct heating via the steam nozzles
- Venting through the vacuum system.
- Drainage
- Automatically through the drainage valve.
- Controlling
- Manually via the control panel of the touch screen
- Automatically using the program control system.

7.2. Constructional Description

The machine consists of the machine frame, the drive and the bowl with cover. The extended motor shaft of the motor protrudes in the bowl and serves as a holder and drive for the working tool. A mixing baffle adapted to the shape of the bowl is mounted on the cover. All parts of the machine that come into contact with the product are made of stainless steel rust free or other physiologically harmless materials.

7.3. Description of the assembly groups

7.3.1. Machine frame

The machine frame made of stainless steel holds the drive of the machine. The drive can be swivelled towards the front along with the product container lying above it.

7.3.2. Drive

Motor, shaft, shaft bearing, working shaft, clamping connection and clear view screen make up the drive unit of the machine. The drive is mounted on the container at some distant. Therefore, the shaft is sealed off twice. Once on the motor and once on the product container. As a result, the outflowing liquid does not penetrate into the motor when leaking through the container seal. The low wear standard three-phase motor has a safety device against the overheating. The centrifugal disc protects against the impurities and seals off the motor with a labyrinth seal towards the gap. The gear drive motor mounted on the cover for the mixing baffle is a robust and low-maintenance drive system. It is provided with filling of grease and connected such that it is ready for operation.

The cover of the product container can be opened only when the mixing baffle is driven to a particular position. A position switch in the cover checks the position of the mixing baffle and ensures that it is maintained at the correct position when switching off the gear drive motor. When

the mixing baffle drive is switched off the brake gets activated at the same time and holds on to the mixing baffle.

7.3.3. Tools