ANIMO

OptiMe

Milk system

- OptiMe with Fresh Milk option
- Refrigerator

Content

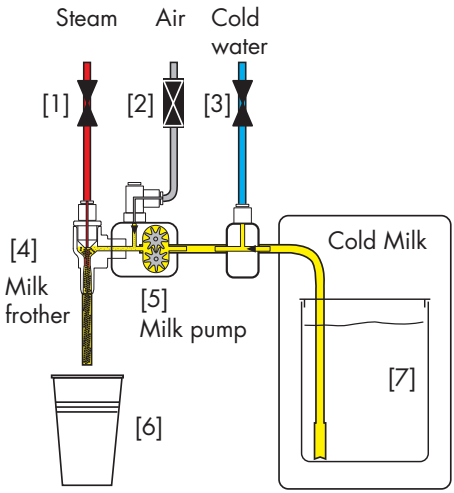
1. Basics
2. Milk variations
3. Calibration milk temperature
4. Adjusting the frothed milk quality
5. Calibration milk volumes
6. Milk system parts
7. Troubleshooting
8. Maintenance
9. Available modifications

1. Basics

Cold milk is transported from the refrigerator [7] by a gear pump [5] to the milk frother [4].

The milk is heated with steam [1]. Air [2] is added to create a fine (micro) milk foam in the cup [6].

See chapter 2. Milk variations



Milk temperature control

To control the temperature of the Warm milk and Milk foam the gear pump speed [5] can be adapted.

By controlling the gear pump speed the milk runs slower or faster through the milk frother resulting in respectively warmer- or less warmer milk(foam).

The machine features several calibration menus to set the correct milk- temperatures and volumes for hot milk and frothed milk.

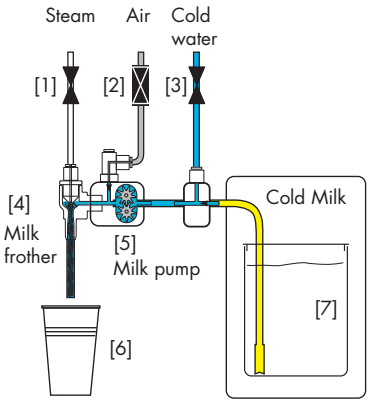
See chapter 3. Calibration milk temperatures

See chapter 4. Calibration frothed milk quality

See chapter 5. Calibration milk volumes

System flushing

Cold water [3] is regularly flushed thought the milk system to prevent uncooled milk remains in the tubes.

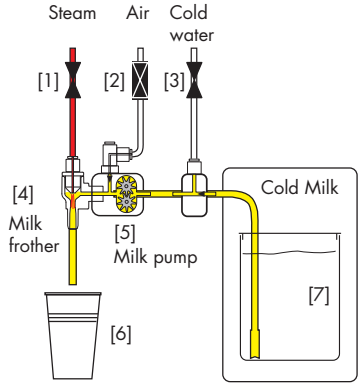


2. Milk variations

Hot milk

Warm milk is made by pumping [5] cold milk [7] from the refrigerator towards the milk frother [4] with the air valve [2] closed.

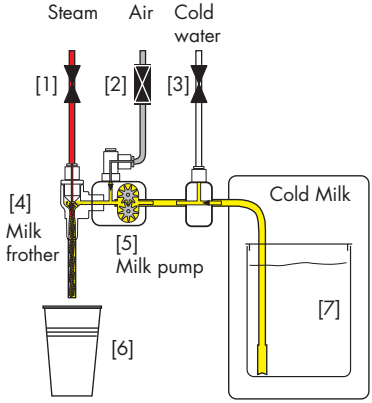
The milk is heated with steam [1] into the milk frother [4] into the cup, creating warm milk.



Frothed Milk

Milk foam is made by pumping [5] cold milk mixed with air [2] from the refrigerator towards the milkfrother [4].

The milk is heated with steam [1] into the milk frother [4] into the cup, creating warm milk foam.



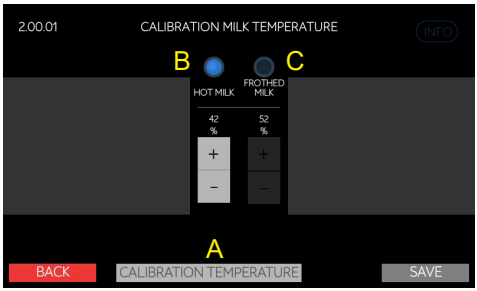
3. Calibration milk temperatures

By setting the milk pump speed you can set the perfect milk temperature from the hot milk and frothed milk.

Navigate to the SERVICE menu:

2.00 INGREDIENT MANAGEMENT

2.00.01 CALIBRATION MILK TEMPERATURE

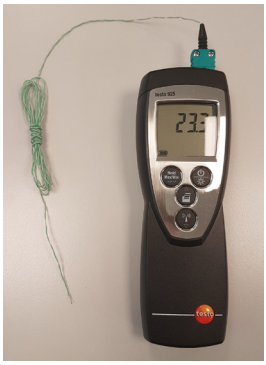


Buttons

- Use button [B] and [C] to switch between hot milk and frothed milk.
- Use button [A] to start a milk dispensing process. The milk dispensing process runs for 20 seconds or stops immediately when button [A] is pressed again.
- Use the [+] and [-] buttons by changing the milk motor speed control the milk temperature.

How to control the milk temperature

- Higher milk pump speed [+] results in a lower milk temperature.
- Lower speed milk pump speed [-] results in a higher milk temperature.



ATTENTION

- Use only UHT milk, don't use fresh (raw) milk
- Use only cooled milk with a temperature between 3-5 °C.
- Prevent the milk getting to hot. Never heat the milk above 72°.
- We advise to set the warm milk and milk foam at maximum 65°C

Tools needed:

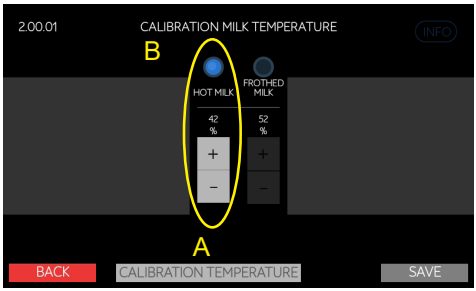
- Electronic thermometer with fast response sensor

Preparations:

- Fix the fast response temperature sensor in the milk outlet (or hold the tip into the milk).
- Place a collection tray under the outlet.

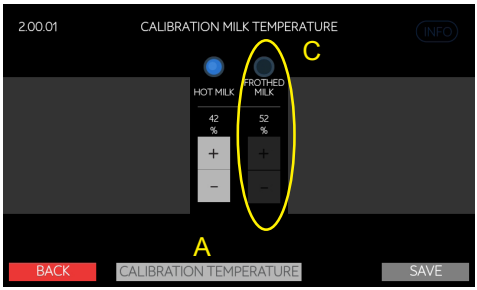
Hot milk

1. Select the hot milk button [B].
2. Start the calibration [A]. Milk flows from the outlet
3. Set the advised milk temperature (65°C) with the + and - buttons.
4. Stop the calibration [A] by hand or wait until it stops automatically.
5. Save the settings



Frothed milk

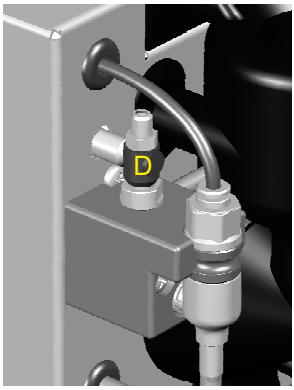
1. Select the frothed milk button [C].
2. Start the calibration [A]. Milk flows from the outlet.
3. Set the advised milk temperature (65°C) with the + and - buttons.
4. Stop the calibration [A] by hand or wait until it stops automatically.
5. Save the settings

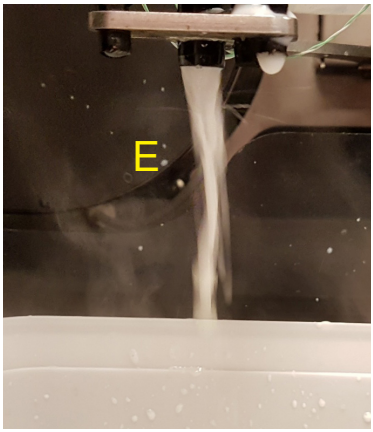


4. Adjusting the frothed milk quality

The frothed milk quality can be controlled by adjusting the air intake during the frothed milk production.
By turning the air valve [D] the quantity of air can be adjusted.

- To much air the milk flow will spouts [E]: pinch the air intake valve [D] (clockwise).
- To less air the milk flow does (almost) not contain foam: open the air intake valve [D] (anti-clock-wise).





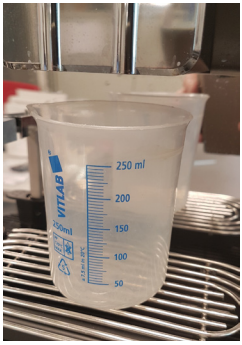
Tools needed:

- Small screwdriver

1. Place a collection tray under the outlet.
2. Start the frothed milk calibration [A].
3. Milk flows from the drink outlet.
4. Open (anti clockwise) the manual air valve [D] until the milk flow spatter [E].
5. Close (clockwise) the manual air valve until the milk flows calmly [F].
   After you are satisfied with the foam quality close the air intake 1/8 turn extra.
6. Stop the frothed milk calibration, or wait until the calibration stops after 20 seconds by it selves.

5. Calibrate milk volumes

We advice to calibrate the milk volumes from the hot milk and frothed milk.



Navigate to the SERVICE menu:
2.00 INGREDIENT MANAGEMENT
2.00.02 CALIBRATION INGREDIENTS

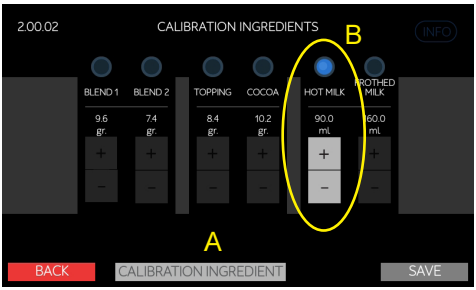
The menu 2.00.02 helps you to calibrate all the ingredients used; coffee, instant ingredients and fresh milk. Below instructions only apply the milk volume calibration.

Tools needed:

- Measuring cup min. 250ml

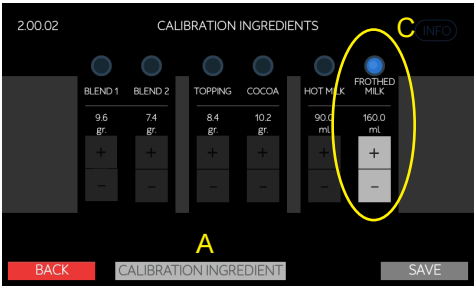
Hot milk

1. Select hot milk [B].
2. Place a measuring cup under the outlet.
3. Start the calibration ingredient [A].
   Hot milk will be dispensed for 20 sec. long and stops automatically.
4. Read the exact milk volume from the measuring cup.
5. Correct the hot milk volume setting in the screen.
6. Save your settings.



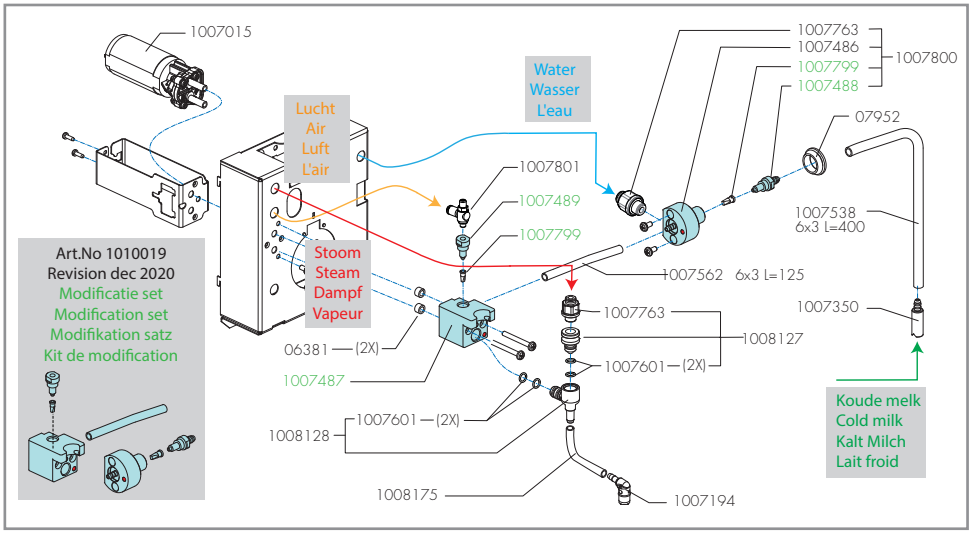
Frothed milk

1. Select frothed milk [C].
2. Place a measuring cup under the outlet.
3. Start the calibration ingredient [A].
   Frothed milk will be dispensed for 20 sec. long and stops automatically.
4. Read the exact frothed milk volume from the measuring cup.
5. Correct the frothed milk volume setting in the screen.
6. Save your settings.



6. Milk system parts

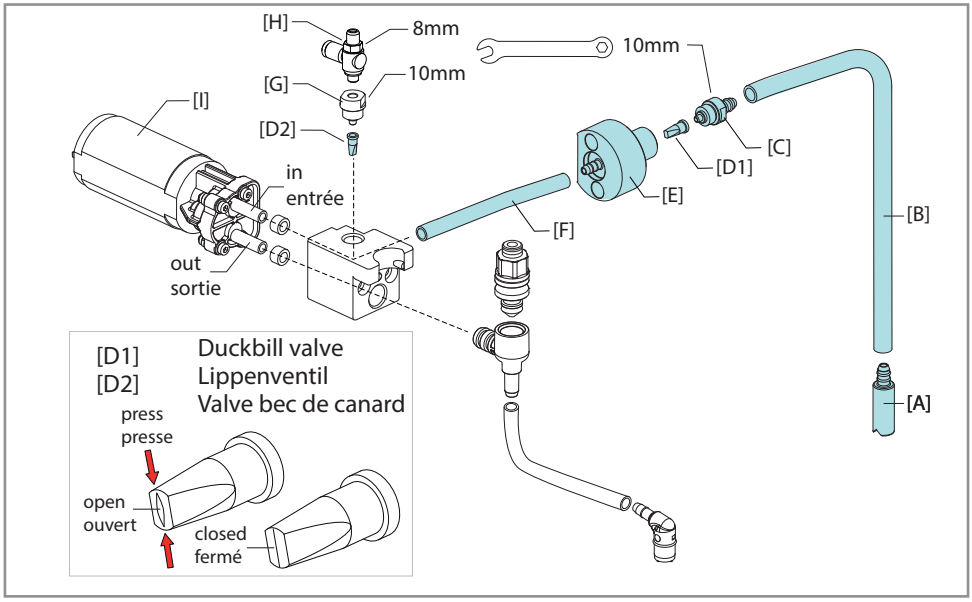
Use below exploded view to identify the milk system components.



Art. No.	Qnt.	part description		Art. No.	Qnt.	part description
06381	2	seal milk pump		1007562	1	tube silicon 6x3 L=125
07952	1	grommet		1007601	4	o-ring
1007015	1	milk pump 24Vdc		1007763	2	push-in fitting
1007194	1	outlet fresh milk		1007799	2	duckbill
1007350	1	milk inlet piece		1007800	1	milk intake adapter complete
1007486	1	milk intake adapter		1007801	1	throttle valve
1007487	1	milk venturi adapter		1008127	1	venturi injector
1007488	1	coupling milk intake		1008128	1	venturi body
1007489	1	coupling air intake		1008175	1	tube silicon 8x5 milk outlet
1007538	1	tube silicon 6x3 L=400		1010019	1	modification kit. dec.2020 !

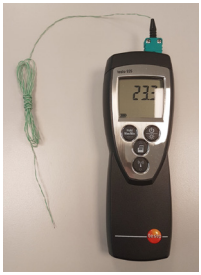
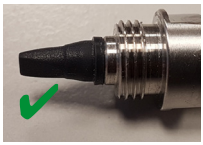
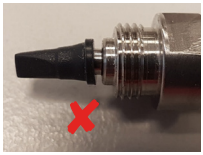
7. Troubleshooting

Use below drawing to identify the mentioned components mentioned in the trouble shooting table.
For Art. No. see exploded view in chapter 6. Milk system parts.

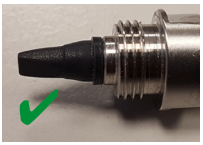
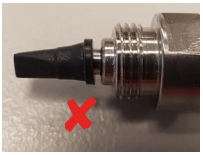


Problem	Possible cause	Solution	
Steam leaves from the milk outlet.	Milk intake tube between machine and refrigerator damaged or kinked	Check the milk inlet tube [B] for cracks. Shorten or replace if necessary.	
No milk dispensing	Cold milk supply obstructed	Check for obstructions in the blue selected parts. Clean or replace if necessary. Art.no. cleaning brushes: 1008122	

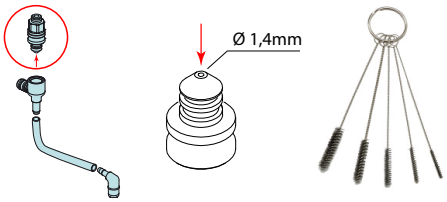
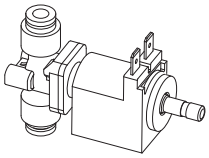
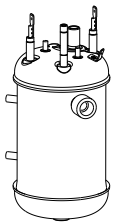
Problem	Possible cause	Solution	
(continuation) Steam leaves from the milk outlet. No milk dispensing	Duckbill valve is missing, defect or dirty	Check the duckbill valve [D1] for: - Correct assembly - Correct function and contamination. Clean or replace if necessary. Art. no. duckbill valve: 1007799	
	Milk system needs cleaning	Run the milk cleaning program. Art.no. milk cleaner: 1008126	
	The milk system was not cleaned with the advised milk cleaner. The pump is clogged up by milk residues.	Check the milk pump. Clean or replace if necessary. Activate the milk pomp in the hardware test, cold milk must transported to the outlet. Motor current (empty) max. 150mA is OK. Motor current (with milk) max. 265mA is OK.	

Problem	Possible cause	Solution	
Milk spouts from dispensing outlet	Milk pump speed to low. The milk is too hot	Check the milk temperature. Calibrate the milk temperature	
	False air enters the system	Check the milk inlet tube [B] for cracks. Shorten or replace if necessary	
	The milk inlet tube [B] runs empty when no milk is dispensed. The duckbill valve does not close anymore.		
	Duckbill valve is missing, defect or dirty	Check the duckbill valve [D1] for: - Correct assembly - Correct function and contamination. - Clean or replace if necessary. Art.no. duckbill valve: 1007799	 

Problem	Possible cause	Solution	
(continuation) Milk spouts from dispensing outlet	Air valve [G] adjustment / fixation needs attention	Check if the air valve [G] needs re-adjustment. Check if the air valve [G] and stainless steel coupling are properly tightened.	

Problem	Possible cause	Solution	
Poor or no milk foam quality from dispensing outlet	No air intake	Check if the air valve [G] needs re-adjustment.	
	No air intake	Check the duckbill valve [D2] for: Correct assembly Correct function and contamination. Clean or replace if necessary. Art.no. duckbill valve: 1007799	 

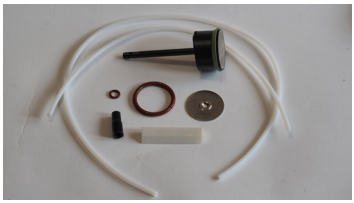
<table>
<tr><th>Problem</th><th>Possible cause</th><th>Solution</th></tr>
<tr><td rowspan="4">Milk temperature to low.

Reducing the milk pump speed does not have effect.</td><td rowspan="4">Insufficient steam supply to the milk venturi.</td><td>Check the steam boiler temperature setting.
Factory setting = 127°C (approx. 1,46 Bar)</td></tr>
<tr><td>Clean the steam venturi injector.
The injector opening ø 1,4mm can be constipated or reduced by caked milk remains. Use a small cleaning brush set to clean out the opening.
  </td></tr>
<tr><td>The Steam valve does not opening well.
Clean or replace if necessary. The valve my be opened completely to identify the problem.
3-way
24Vdc
0-3 bar
DN 2,5
 
Before removing the steam valve from the boiler system it needs to be de-pressurised. Service menu 2.14 Installation / Shut down / de-pressurise system.
ATTENTION: modification available, see chapter 9. Available modifications</td></tr>
<tr><td>The steam boiler is full with lime-scale. Replace the complete steam boiler.
  </td></tr>
</table>

8. Maintenance

At least ones a year the machine needs service

The are 3 service warnings which can appear in the display

Service signal	Action	Parts needed
Service brewer system Interval after 25.000 coffee's Select the link below or scan the QR code Brewer service kit Guide: Service OPTIME Instruction: Maintenance kit espresso gr 37 & 44mm	Assemble the service kit. Reset the BREWER SERVICE signal in the Service menu / 2.06 Service management. After the reset the brewer service date is recorded in the Analyse screen.	Use mentioned service kit  Art. No. 1004917 (37mm brewer) Art. No. 1004918 (44mm brewer)
Service Water filter / Interval after 2400 Liters and/or Optional months in use * factory setting is based on a Brita C150 filter with a water hardness of 10 K ° Always check the local water hardness on site and determine the correct type of filter and filter capacity and its by-pass setting as specified by the filter supplier.	Replace filter cartridge. Reset the SERVICE WATER FILTER signal in the Service menu / 2.06 Service management. After the reset the water filter change date is recorded in the Analyse screen.	Replace the water filter cartridge

Service signal	Action	Parts needed
Service moment milk system Interval after 12* months * factory setting	Assemble the service kit Reset the SERVICE moment MILK SYSTEM signal in the Service menu / 2.06 Service management. After the reset the water filter change date is recorded in the Analyse screen.	Use mentioned service kit Art. No. 1008123

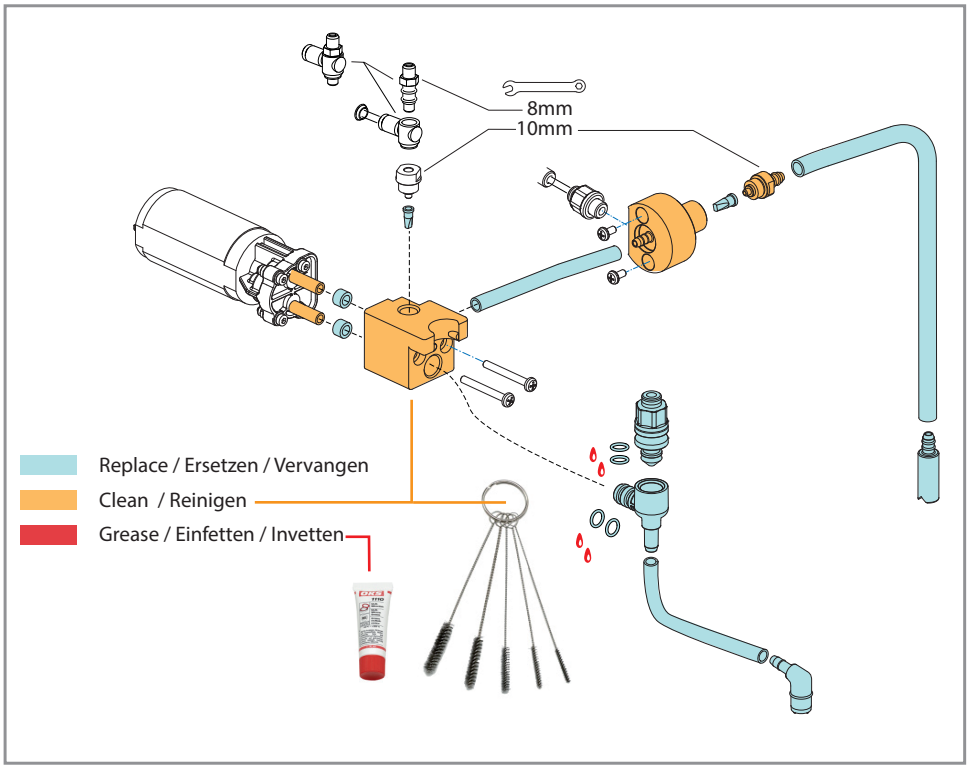
Below table the additional advised service part are mentioned

Service	Action	Parts needed
Service mixer system / Interval after 1 Year (minimal)	Assemble the service kit	Art. No. 1008125
Drain tube drip tray (optional) Interval after 1 Year	Assemble a new or clean the existing drain hose to ensure the proper functioning of the drip tray drain.	Use only the below drain hose. Art. No. 1007650

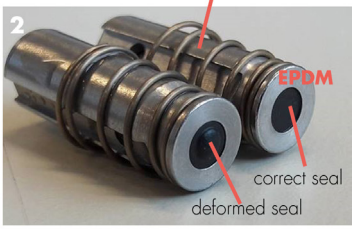
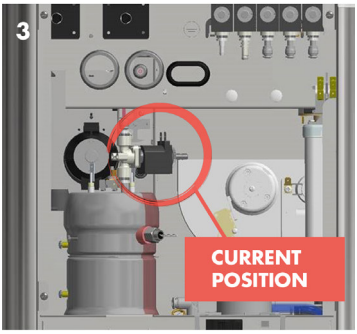
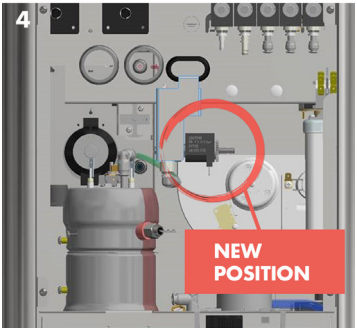
Service the milk system

Use below information how to service the fresh milk system.

- The Milk service kit [Art. No. 1008123] include most of the parts which are in contact with the milk.
- The other parts which are in contact can be disassembled and cleaned with the brushes supplied in de milk service kit. Grease the O-rings with the grease supplied in the same kit.
- When the parts are reassembled the milk system must be calibrated .



9. Available modifications

Problem / Possible cause	Modification
Milk temperature to low. Reducing the milk pump speed does not have effect.	
Insufficient steam supply to the milk venturi.	
During 24/7 use of the machine, sealing of the steam supply valve can develop a deformation leading to a reduced flow resulting in the above mentioned problem. From production week 50/2020 (s / n: 2VD61344) the valve is mounted in a new position and is then no longer on top of the steam boiler. Art. No. 1010013 Replacement set steam valve Explanation of the pictures on the right: 1. Location of the seal in the steam valve 2. Deformed and good sealing 3. Original steam valve position 4. New steam valve position Select the link below or scan the QR code Build-in instructions modification kit. Guide: Service OPTIME Instruction: Replacement set steam valv	 

Problem / Possible cause

Dirty duckbill valves

By placing the duckbill valves deeper in the milk circuit, they are cleaned even better during the rinsing process (water) and the cleaning process (milk cleaner).

Milk Venturi and Rinse Adapter Blocks [A]

From production week 50/2020 (s/n: 2VD61344) a new milk venturi- and rinse adapter block [A] is used in the machine.

The new milk venturi and rinse adapter block can be recognized by the shallow hole, see red dot [A].

Duckbill [B]

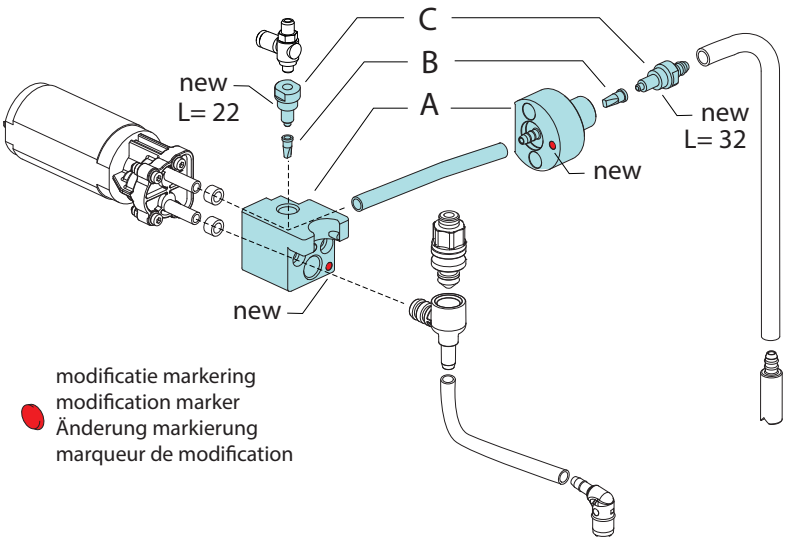
In the new adapter blocks, the duckbill valves [B] are placed deeper in the milk circuit, making the rinsing and cleaning process even better.

Stainless steel couplings [C]

The stainless steel couplings [C] where the duckbill is slid onto the end have become longer due to this adjustment. Therefore, always use the long stainless steel couplings included in the replacement set

Replacement set

Item No. 1010019 Replacement set duckbill adapter blocks. The set includes the blue marked parts.



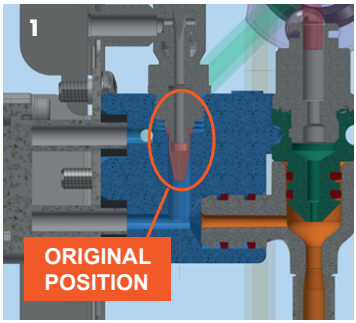
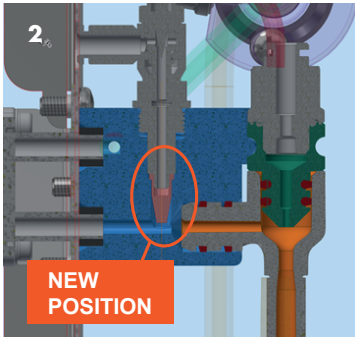
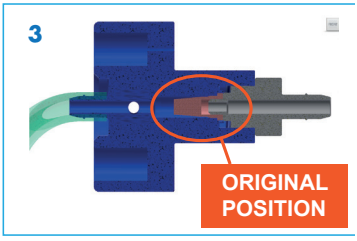
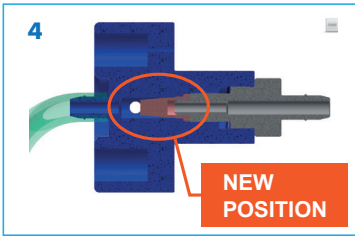
Continuation...

Explanation of the images on the right:

1. Original duckbill position (air inlet)
2. New duckbill position (air inlet)
3. Original duckbill position (milk inlet)
4. New duckbill position (milk inlet)

Select the link below or scan the QR code

[Installation instructions replacement duckbill adapter blocks]

Guide: Service OPTIME
Instruction: Replacement set duckbill adapter blocks

Modification