

Service Memo

2018-002

Dispenser: Schaerer Soul

Title: Extra information with respect to Best Foam machine settings for **SOUL**

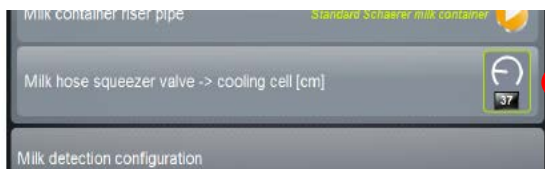
Hereby some extra information with respect to settings for the SOUL with respect to Best Foam:

- Don't change anything with the Best Foam parameters in the program:
 - Best Foam parameter: Pre warming time is time (duration) that water is rinsing into the drain.



← Warms up the milk system after a cold beverage after a certain time and for a certain duration

- Milk system: milk container hose length; this is the length from squeezer valve and the point where the hose enter the cooling cell of the fridge:



• Hose length definition: hose length between the squeezer valve and the point where the hose enters the cooling cell of the fridge (=refrigerated area); Key objective: milk waste reduction during the rinsing process.

- Important to know what happens when changing settings in beverage recipe:



- Expert menu to adjust the hot milk.

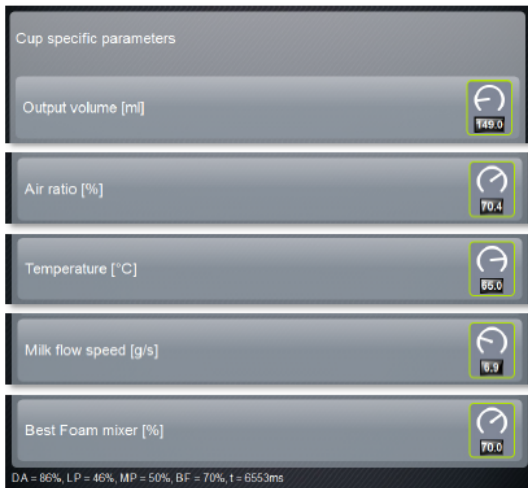
Amount of air in the milk (this is not the PWM of the air pump like SCA Best Foam™)

- Expected accuracy $\pm 2^\circ\text{C}$; make sure that the milk is not pulsing or close to pulsing (means over heating).
- Do not change when not necessary or otherwise within the range of 8.5 g/s until 20 g/s.
- Mixer speed: do not change.

- DA: 'dampf' > steam > amount of steam through the proportional valve (PWM value)
- LP: 'luftpumpe' > air pump > speed of the air pump (PWM value)
- MP: 'milchpumpe' > milk pump > speed of the milk pump (PWM value)
- BF: 'Best Foam™' > speed of the mixer (PWM value)
- t: time > dispensing time in ms.

- When the milk is pulsing:
 - Freshness of the milk does have an influence (the closer towards the end of shelf life the more critical*).
 - Make sure the milk is properly pre-cooled between 2 and 5°C; the colder the better.
 - Reduce the temperature setting (this will influence the amount of steam) and might bring the system into a better balance.
 - Reduce the milk flow speed somewhat.
 - Make sure that the steam boiler temperature = 128°C (do not change).

- * End of shelf life:
 - Fresh milk: some days before the official end of shelf life the behaviour is changing.
 - UHT milk: 1 or 2 weeks before the official end of shelf life the behaviour is changing.



- Expert menu to adjust the hot milk foam.

Amount of air in the milk (this is not the PWM of the air pump like SCA Best Foam™). Limit $\approx 80\%$ (above 80% the milk foam will deteriorate; below 50% the air pump might not start).

- Expected accuracy $\pm 2^\circ\text{C}$; make sure that the milk is not pulsing / close to pulsing or showing large bubbles (signalling potential over heating).
- Do not change when not necessary or otherwise within a range of around - 0.1-0.2 g/s. Small changes will have a profound effect on the (stiffness) of the foam. Range limits 6.5g/s – 7.2 g/s. Reducing the speed will make the milk more stiff.
- Mixer speed: depending on the mixer the range is 60-80%. (80% for extra stiff / Espresso Macchiato; combining this with a slightly reduced milk flow speed will help to create more stiffness). Do not change when not necessary.

- DA: 'dampf' > steam > amount of steam through the proportional valve (PWM value)
- LP: 'luftpumpe' > air pump > speed of the air pump (PWM value)
- MP: 'milchpumpe' > milk pump > speed of the milk pump (PWM value)
- BF: 'Best Foam™' > speed of the mixer (PWM value)

Be aware of the difference in setting between SCA BF and SOUL

- Comparison SCA BF™ (PWM) and Coffee Soul Air ratio (%):
 - Foam 1 SCA BF™ PWM 50% - Soul Air ratio: $\approx 60\%$
 - Foam 2 SCA BF™ PWM 65% - Soul Air ratio: $\approx 65\%$
 - Foam 3 SCA BF™ PWM 80% - Soul Air ratio: $\approx 70\%$
 - Foam 4 SCA BF™ PWM 95% - Soul Air ratio: $\approx 75\%$

- For the best possible foam results (avoiding large bubbles):
 - Freshness of the milk does have an influence (the closer towards the end of shelf life the more critical*).
 - Make sure the milk is properly pre-cooled between 2 and 5°C; the colder the better (previously frozen milk is unusable).
 - Reduce the temperature setting (this will influence the amount of steam); this can be combined with the next step.
 - Reduce the milk flow speed with 0.1 or 0.2 g/s to increase the stiffness this will lead to a slightly higher temperature.
 - Measure the temperature at the outlet (with a fast response digital thermometer): it can become critical from $\approx 68^\circ\text{C}$ (milk freshness is a factor as well)
 - Make sure that the steam boiler temperature = 128°C (do not change).

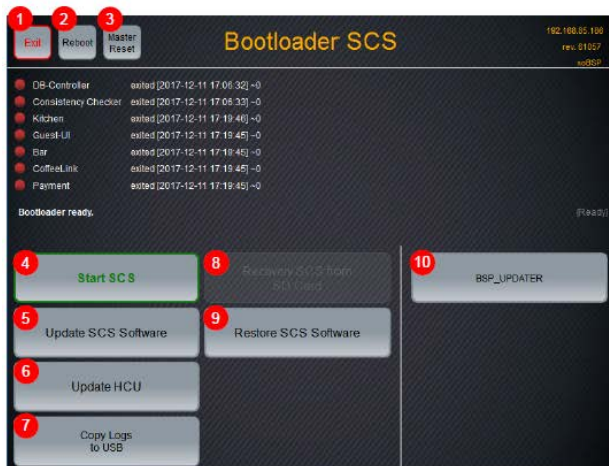
- * End of shelf life:
 - Fresh milk: some days before the official end of shelf life the behaviour is changing.
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- Programming example stiff foam' for [Espresso Macchiato](#).
- This is the current milk foam default setting for software 1.85 / 2.0x.

- Slight adjustment of the milk flow speed to create a short burst of stiff foam.
- Adjustment of the mixer speed to create a short burst of stiff foam.

- Information with respect to master reset especially point 3:



- 1 Do not use; results in a blocked machine > use the green reset button to recover.
- 2 Windows restart + SCS restart.
- 3 • Brings the panel back to the 'virgin' status (as Schaerer receives it from the supplier).
• Database (all settings: calibration values, counters, hardware config. etc.) are lost.
• Note that this state is NOT equal to the ex. works situation!
• Note that a 'master reset' will also delete the actual database from the SD card (in this case only a manually made backup on a USB stick will help).
• Use case example: A panel being removed from machine A and used in machine B. (serial numbers must match / hardware detection must be made)
- 4 To start the machine (leaving the bootloader).
- 5 Starts a software update from a USB stick.
- 6 Is normally not done separately (integral part of a general software update).
- 7 To copy the error logs in case of software (suspected) issues.
- 8 (Recovery SCS from SD card): Installs the software and recovers all data.
- 9 After an upgrade the previous software package is retained for 30 days, this function facilitates a downgrade to the previous software version.
- 10 Windows CE update (from USB drive).