

Subject:	SOFTWARE 5.03 (9648)	T.I. No.:	05 / 2010	Date:	10.08.2010
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Machine(s) involved:	SCA / SCA-P	Priority:	HIGH	Issued by:	Vincent Spruijt
From serial no:		Issued for:			
From date:		INFORMATION			

GENERAL

A new software for the Coffee Art has been released: [CoffeeArtPlusN_v5.03_\[9648\].hex](#); the software can be used for all versions of the SCA and SCA-P models.

IMPORTANT REMARK

Refer to page 57 for an important remark regarding the parameter 'brewer motor' (system parameters).

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OVERVIEW OF MOST IMPORTANT CHANGES AND IMPROVEMENTS

GENERAL PARAMETERS

- ▶ **MILK LEVEL DETECTION: INTELLIGENT MODE** (page 31):
 - Gives the possibility to define an amount of milk products which still can be dispensed after the milk sensor has signalled low level. In case the set amount of additional products has been reached (defined in the next parameter 'milk products after empty') the dispensing of milk products is blocked.
- ▶ **MILK SYSTEM ON/OFF REQUEST** (page 32):
 - When set to 'yes' to machine will prompt 'milk system on/off' after the cleaning process. When set to 'no' to machine will not show the message 'milk system on/off' after the cleaning process.

DATE / TIME / ALARM

- ▶ **SERVICE REQUEST** (page 34):
 - An 'early warning' is implemented (30 days before the set amount of months expires / 5000 coffee products before the set amount of coffees expires).
- ▶ **FILTER EXCHANGE** (page 33):
 - An 'early warning' is implemented (30 days before the set amount of months expires / 5000 litre before the set amount of litres expires).

READ OUT COUNTERS

- ▶ **AIR PUMP:**
 - A service counter for the air pump is implemented.

SYSTEM PARAMETERS

- ▶ **RESET ERROR LOG** (page 60):
 - To erase the error log (edit mode).
- ▶ **SELF SERVICE CONCEPT** (page 59):
 - A new concept which makes the plastic button covers (with small hole for a pencil) obsolete.

FUNCTIONAL CHANGES

- ▶ **MACHINES WITH OUTLET CHANGE-OVER (SO CALLED 'SWAN NECK'):**
 - When coffee is dispensed through the swan neck, hot milk or milk foam can be dispensed through the regular outlet. Condition: machine must be able to heat at least 2 boilers simultaneously (1 phase 30 A or 3 phase 16 A machine).
- ▶ **HEATING MANAGEMENT:**
 - The heating management has been further improved, a much better temperature accuracy of the boilers is achieved.
- ▶ **SAVE DATA CARD COMPATIBILITY:**
 - In case the machine is equipped with software 4.20 / 4.23 / 4.35 / 4.36 / 4.37 it is possible to
 1. Make a copy from the data on the SAVE-DATA card.
 2. Install a new CPU (prepared in the office, send to a technician without laptop).
 3. Set the correct machine number.
 4. Read back the data from the SAVA-DATA card.

CORRECTIONS

- ▶ **CHIP CARD SIMULATION:**
 - Previously it was not possible to switch an accounting system on or off via the PROGRAM card simulation.
- ▶ **MILK SMART CLEANING**
 - The cleaning time for the milk system has been reduced (with previous software the milk cleaning carried on for a substantial period after the recommended 1.1 litre cleaning solution was finished).

IMPORTANT REMARK (machine reverts to 'standby' during the cleaning process)

- ▶ The machine will automatically revert to standby when, during the cleaning process, one of the following errors occur (the error will NOT been shown on the display but there will an entry in the error log of the machine):
 - Brew unit time out.
 - Time out steam supply.

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PRODUCT BUTTONS

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
GENERAL				
GENERAL DESCRIPTION / INFORMATION :				
Before a button can be programmed a basic product out of the ‘product pool’ (see next chapter) must be allocated to the button. As soon as the allocation is made the programming of the button can be entered for fine-tuning of the product.		-	-	-
<div><div>select product</div><div>< press button ></div></div>	DESCRIPTION: ▶ Press a product button (or a pre-selection button in combination with a product button).	-	-	-
<div><div>select product</div><div>no product</div></div>	DESCRIPTION: ▶ In this example there is no product programmed. ▶ As a result of this the button is blocked (during normal operation of the machine).	-	-	-
PRODUCT ‘POOL’				
GENERAL DESCRIPTION / INFORMATION :				
Depending on the configuration of the machine [depending on the settings in the ‘system parameters’) a certain amount of products is selectable. Below an overview of the complete product pool.				
PRODUCT POOL OVERVIEW:				
<div><div>▶ no product</div><div>▶ ristretto</div><div>▶ espresso</div><div>▶ coffee</div><div>▶ cappuccino</div><div>▶ latte macchiato</div><div>▶ milk coffee</div><div>▶ milk</div><div>▶ milk foam</div><div>▶ hot water</div><div>▶ steam</div></div>	<div><div>▶ decaf button</div><div>▶ 2x-button</div><div>▶ shift button</div><div>▶ [shift button2; in combination with an external 8 button keypad].</div><div>▶ hot chocolate</div><div>▶ moccachino</div><div>▶ mug</div><div>▶ americano</div><div>▶ steam cup heater</div></div>	-	-	
IMPORTANT NOTICE REGARDING: ‘Twin milk’				
Since the ‘Twin Milk’ system may be rather rare and the additional parameters in all ‘fresh milk products’ may be experienced as confusing it has been decided to mention those parameters in a separate chapter which can be found at page 26.				

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
RISTRETTO, ESPRESSO, COFFEE, MUG				
<div>select product ristretto</div>	DESCRIPTION: ▶ Ristretto, Espresso, Coffee & Mug are always visible in the product pool. ▶ Ristretto, Espresso, Coffee & Mug share the same parameters.	-	-	-
<div>counted products 01</div>	DESCRIPTION: ▶ Determines the increment of the counters per brew cycle.	0 - 20	1	-
<div>product preselection yes</div>	DESCRIPTION: ▶ When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. ▶ When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications.	yes / no	yes	-
<div>dispensing mode single product</div>	DESCRIPTION: ▶ Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ▶ When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ▶ Water, foam and milk amounts are doubled automatically.	-single product -double product	-single	-
<div>outlet change-over no</div>	DESCRIPTION: ▶ When set to 'yes' the coffee will be dispensed through the 'swan neck'.	yes / no	no	REMARK: ▶ Only visible when an 'outlet change over' is configured in the system parameters and only for the product 'mug'.
<div>pump pressure no</div>	DESCRIPTION: ▶ When set to 'no' the coffee is running on the incoming water pressure only.	yes / no	no	REMARK: ▶ Only visible for product 'mug'.
<div>product test</div>	DESCRIPTION: ▶ From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'.	-	-	REMARK: ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
<div>select grinder right grinder</div>	DESCRIPTION: ▶ Self explanatory.	-left -right -left & right	-right (ristretto) -right (espresso) -left (coffee)	REMARK: ▶ When 'left & right' is selected an additional parameter 'grinder balance' will be shown.
<div>powder quantity 9.0 g.</div>	DESCRIPTION: ▶ Lower limit: if products are produced with less then 4 grams of coffee the brewer will contaminate very fast. ▶ Upper limit: absolute maximum amount of coffee that will fit into the brew chamber.	4.0 - 16.0 gram	-9.5 gram (ristretto) -9.0 gram (espresso) -9.0 gram (coffee)	-
<div>grinder balance L: 50% R: 50%</div>	DESCRIPTION: ▶ Often used in self service applications where the same blend is used in two grinders to maximise capacity and to make sure that both containers are equally used.	-	50 / 50	REMARK: ▶ Visible when 'select grinder' is set to 'left & right'.
<div>strokes per button 01</div>	DESCRIPTION: ▶ To create larger coffee volumes with one press on the button [jug].	1 - 20	1	-
<div>water quantity 40 ml</div>	DESCRIPTION: ▶ Self explanatory.	1 - 600 ml	-25 ml (ristretto) -40 ml (espresso) -100 ml (coffee)	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
bypass water 0.0 s	DESCRIPTION: <ul style="list-style-type: none"> ▶ IMPORTANT: the bypass valve will NEVER open longer then the brew valve. In case the time setting of the bypass valve exceeds the opening time of the brew valve the bypass valve will be closed together with the brew valve. ▶ To restrict the water flow over the bypass a 0.6 mm restrictor is placed after the bypass valve. ▶ Refer to the description of the 'Americano' beverage for further possibilities with the by-pass valve, see page 7. 	0 - 30.0 s	0.0 s	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'bypass water available' is set to 'yes' in the system parameters.
initial pressure level 4	DESCRIPTION: <ul style="list-style-type: none"> ▶ Determines the pressure of the under piston against the ground coffee which is in the brew chamber. ▶ The pressure is created with the brewer motor. ▶ The higher the pressure the slower the coffee water will flow through the ground coffee in the brew chamber. ▶ Common settings: <ul style="list-style-type: none"> - 1 / 2: long coffees (without bypass). - 3 / 4: espresso and espresso related products like cappuccino. - 5: ristretto. 	1 - 5 (1 is the lowest; 5 the highest)	-5 (ristretto) -4 (espresso) -3 (coffee)	-
pre-infuse 10 ml	DESCRIPTION: <ul style="list-style-type: none"> ▶ The pre-infuse is a small 'shot' of water injected into the ground coffee after the initial pressure. Obviously this water is absorbed by the ground coffee due to which it expands. Since the absorption takes a little time a waiting time must be set (see next parameter). Due to the expansion of the coffee grounds the coffee water will find more resistance to pass the coffee. As a result of this the coffee water will flow slower. The slower the water flows the more time it has to absorb flavours and aroma's from the ground coffee. ▶ Commonly used for single shots of espresso's & ristretto's. 	0 - 15 ml	-10 ml (ristretto) -10 ml (espresso) -0 ml (coffee)	REMARK: <ul style="list-style-type: none"> ▶ 1 gram of coffee can absorb 1 ml of water (approximately). Therefore the amount of pre-infuse water should not exceed the amount of coffee powder.
delay pre-infuse 1.0s	DESCRIPTION: <ul style="list-style-type: none"> ▶ Common setting 1.0 - 1.5 s. ▶ Note that the waiting time adds up to the total dispensing time. Since a waiting time in excess of 2 seconds has a very minor influence towards the coffee taste it is seldom used. 	0.0 - 9.9 s	-1.0 s (ristretto) -1.0 s (espresso)	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'pre-infuse' > 0 ml.
chamber opening time 0 ms	DESCRIPTION: <ul style="list-style-type: none"> ▶ When the chamber is opened (under piston driving down) the ground coffee in the brew chamber gets more space. When there is more space the coffee water can pass the ground coffee easier (faster). Less aroma's and flavours are absorbed. ▶ Commonly used: <ul style="list-style-type: none"> - A low setting (10-30 ms): can have a positive effect on the taste of an espresso. - A high setting (100-200 ms): used for long coffees to prevent from over extraction. 	0 - 200 ms	-0 ms (ristretto) -0 ms (espresso) -0 ms (coffee)	-
wet pressing no	DESCRIPTION: <ul style="list-style-type: none"> ▶ Sometimes used for single shots of espresso's and ristretto's. ▶ Enables (in combination with a high initial pressure and pre-infuse) for the slowest possible flow of coffee water through the ground coffee in order to absorb the maximum amount of flavours and aroma's. 	yes / no	no	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'pre-infuse' > 0 ml AND 'open brew chamber' = 0.
2x grind quantity 14.0 g.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	4.0 - 16.0 gram	14.0 gram	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'dispensing mode' is set to 'double'.
2x initial pressure level 1	DESCRIPTION: <ul style="list-style-type: none"> ▶ Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down (more coffee means a much more thicker layer of coffee grounds in the brew chamber). Therefore it can be useful to set a lower initial pressure for a double shot then for the single shot. ▶ For double coffees usually the range of 1 - 2 applies. 	1 - 5	1	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'dispensing mode' is set to 'double'.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
2x delay pre-infuse 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ► Pre-infuse is seldom used for double coffees. ► Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by pre-infuse will often result in over extraction. 	0.0 - 9.9 s	0.0 s	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x open brew chamber 0 ms	DESCRIPTION: <ul style="list-style-type: none"> ► Often used for long doubles to prevent from over extraction. Applicable range 100 - 200 ms. 	0 - 200 ms	0 ms	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x wet pressing no	DESCRIPTION: <ul style="list-style-type: none"> ► Wet pressing is seldom used for double coffees. ► Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by wet pressing will often result in over extraction. 	yes / no	no	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double' AND '2 x open brew chamber' = 0.
AMERICANO (ONLY VISIBLE WHEN A BY-PASS IS CONFIGURED)				
select product americano	CONDITION: <ul style="list-style-type: none"> ► This beverage can be programmed when a bypass valve is present in the machine. 	-	-	-
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> ► Determines the increment of the counters per brew cycle. 	0 - 20	1	-
product preselection yes	DESCRIPTION: <ul style="list-style-type: none"> ► When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. ► When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications. 	yes / no	yes	-
dispensing mode single product	DESCRIPTION: <ul style="list-style-type: none"> ► Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ► When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ► Water, foam and milk amounts are doubled automatically. 	-single product -double product	-single	-
product test	DESCRIPTION: <ul style="list-style-type: none"> ► From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ► Press 'on'. ► The LED's from all products that can be tested will be switched on. ► Select the product that requires testing. ► To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ► Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
select grinder right grinder	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	-left -right -left & right	right	REMARK: <ul style="list-style-type: none"> ► When 'left & right' is selected an additional parameter 'grinder balance' will be shown.
powder quantity 9.0 g.	DESCRIPTION: <ul style="list-style-type: none"> ► Lower limit: if products are produced with less than 4 grams of coffee the brewer will contaminate very fast. ► Upper limit: absolute maximum amount of coffee that will fit into the brew chamber. 	4.0 - 16.0 gram	9.0 gram	-
grinder balance L: 50% R: 50%	DESCRIPTION: <ul style="list-style-type: none"> ► Visible when 'select grinder' is set to 'left & right'. ► Often used in self service applications where the same blend is used in two grinders to maximise capacity and to make sure that both containers are equally used. 	-	50/50	REMARK: <ul style="list-style-type: none"> ► Visible when 'select grinder' is set to 'left & right'.
strokes per button 01	DESCRIPTION: <ul style="list-style-type: none"> ► To create larger coffee volumes with one press on the button [jug]. 	1 - 20	1	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
water quantity 40 ml	DESCRIPTION: ► Self explanatory.	1 - 600 ml	40 ml	-
bypass water 20 ml	DESCRIPTION: ► IMPORTANT: Note that the bypass water is defined as an independent parameter (normally the bypass water is a part of the coffee water - included in the 'water quantity' as set in the previous parameter).	0 - 999 ml	20 ml	-
initial pressure level 4	DESCRIPTION: ► Determines the pressure of the under piston against the ground coffee which is in the brew chamber. ► The pressure is created with the brewer motor. ► The higher the pressure the slower the coffee water will flow through the ground coffee in the brew chamber. ► Common settings: - 1 / 2: long coffees (without bypass). - 3 / 4: espresso and espresso related products like cappuccino. - 5: ristretto.	1 - 5 (1 is the lowest; 5 the highest)	4	-
pre-infuse 5 ml	DESCRIPTION: ► The pre-infuse is a small 'shot' of water injected into the ground coffee after the initial pressure. Obviously this water is absorbed by the ground coffee due to which it expands. Since the absorption takes a little time a waiting time must be set (see next parameter). Due to the expansion of the coffee grounds the coffee water will find more resistance to pass the coffee. As a result of this the coffee water will flow slower. The slower the water flows the more time it has to absorb flavours and aroma's from the ground coffee. ► Commonly used for single shots of espresso's & ristretto's.	0 - 15 ml	5 ml	REMARK: ► 1 gram of coffee can absorb 1 ml of water (approximately). Therefore the amount of pre-infuse water should not exceed the amount of coffee powder.
delay pre-infuse 1.0s	DESCRIPTION: ► Common setting 1.0 - 1.5 s. ► Note that the waiting time adds up to the total dispensing time. Since a waiting time in excess of 2 seconds has a very minor influence towards the coffee taste it is seldom used.	0.0 - 9.9 s	1.0 s	REMARK: ► Visible when 'pre-infuse' > 0 ml.
chamber opening time 0 ms	DESCRIPTION: ► When the chamber is opened (under piston driving down) the ground coffee in the brew chamber gets more space. When there is more space the coffee water can pass the ground coffee easier (faster). Less aroma's and flavours are absorbed. ► Commonly used: - A low setting (10-30 ms): can have a positive effect on the taste of an espresso. - A high setting (100-200 ms): used for long coffees to prevent from over extraction.	0 - 200 ms	0 ms	-
wet pressing no	DESCRIPTION: ► Sometimes used for single shots of espresso's and ristretto's. ► Enables (in combination with a high initial pressure and pre-infuse) for the slowest possible flow of coffee water through the ground coffee in order to absorb the maximum amount of flavours and aroma's.		-	REMARK: ► Visible when 'pre-infuse' > 0 ml AND 'open brew chamber' = 0.
2x grind quantity 14.0 g.	DESCRIPTION: ► Self explanatory	4.0 - 16.0 gram	14.0 gram	REMARK: ► Visible when 'dispensing mode' is set to 'double'. -
2x initial pressure level 1	DESCRIPTION: ► Since the diameter of the brew chamber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down (more coffee means a much more thicker layer of coffee grounds in the brew chamber). Therefore it can be useful to set a lower initial pressure for a double shot than for the single shot. ► For double coffees usually the range of 1 - 2 applies.	1 - 5	1	REMARK: ► Visible when 'dispensing mode' is set to 'double'.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
2x delay pre-infuse 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ► Pre-infuse is seldom used for double coffees. ► Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by pre-infuse will often result in over extraction. 	0.0 - 9.9 s	0.0 s	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x open brew chamber 0 ms	DESCRIPTION: <ul style="list-style-type: none"> ► Often used for long doubles to prevent from over extraction. Applicable range 100 - 200 ms. 	0 - 200 ms	80 ms	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x wet pressing no	DESCRIPTION: <ul style="list-style-type: none"> ► Wet pressing is seldom used for double coffees. ► Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by wet pressing will often result in over extraction. 	yes / no	no	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double' AND '2 x open brew chamber' = 0.
CAPPUCCINO, MILK COFFEE, LATTE MACCHIATO (BASED ON 'FRESH MILK')				
select product cappuccino	DESCRIPTION: <ul style="list-style-type: none"> ► As far as the parameters are concerned 'cappuccino', 'milk coffee' and 'latte macchiato' are equal in build up. ► These beverages can be programmed when: <ul style="list-style-type: none"> - A milk system is enabled (Milk Smart / Milk Pump / Twin Milk / Centre Milk). - A steam boiler is active (2, 3 or 6 kW). 	-	-	REMARK: <ul style="list-style-type: none"> ► The sequence of milk and coffee parameters depends on the setting of 'output sequence'. The order of programming is equal to the dispensing order. ► This programming example is valid for the following configurations: <ul style="list-style-type: none"> - Milk Smart. - Milk Pump. - Centre Milk. - Twin Milk. ► For specific 'Twin Milk' parameters refer to page 26.
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> ► Determines the increment of the counters per brew cycle. 	0 - 20	1	-
output sequence milk before coffee	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	-milk before -milk with -milk after -no milk (new from 4.37).	-milk before (cappuccino) -milk after (milk coffee) -milk before (l. macchiato)	-
product preselection yes	DESCRIPTION: <ul style="list-style-type: none"> ► When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. ► When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications. 	yes / no	yes	-
dispensing mode single product	DESCRIPTION: <ul style="list-style-type: none"> ► Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ► When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ► Water, foam and milk amounts are doubled automatically. 	-single product -double product	-single product	-
product test	DESCRIPTION: <ul style="list-style-type: none"> ► From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ► Press 'on'. ► The LED's from all products that can be tested will be switched on. ► Select the product that requires testing. ► To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ► Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
cold milk time 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Sometimes used to produce a latte macchiato however for special recipe's cold milk can also be added to cappuccino and milk coffee. 	0.0 - 40.0 s	-0.0 s (cappuccino) -0.0s (milk coffee) -4.0s (l. macchiato)	REMARK: <ul style="list-style-type: none"> Only visible when 'Milk Pump / Centre Milk / Twin Milk' is activated in the 'system parameters'. Not visible for 'Milk Smart' systems.
hot milk time 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Self explanatory. 	0.0 - 40.0 s	-0.0 s (cappuccino) -11.0 s (milk coffee) -0.0s (l. macchiato)	-
pump hot milk 55 %	DESCRIPTION: <ul style="list-style-type: none"> The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). Recommended is a temperature of $\pm 72^{\circ}\text{C}$ measured directly under the outlet in the milk stream. With a Milk Smart system the output temperature is determined with the milk restrictor which is attached to the blue hot milk hose. 	45 - 100 %	55 %	REMARK: <ul style="list-style-type: none"> Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters' (and the hot milk time is > 0 s). Not visible for 'Milk Smart' systems. IMPORTANT REMARK: <ul style="list-style-type: none"> Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
waiting time milk 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Waiting time between the hot milk and the next component of the beverage. 	0.0 - 15.0 s	-0.0 s (cappuccino) -0.0s (milk coffee) -2.0s (l. macchiato)	-
foam time 10.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Self explanatory. 	0.0 - 40.0 s	-10.0 s (cappuccino) -1.0 s (milk coffee) -8.0s (l. macchiato)	-
pump foam 65 %	DESCRIPTION: <ul style="list-style-type: none"> The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). Recommended is a temperature of $\pm 65^{\circ}\text{C}$ measured directly under the outlet in the milk foam stream. With a Milk Smart system the output temperature is determined with the milk foam restrictor which is attached to the (transparent) foam hose. 	45 - 100 %	65 %	REMARK: <ul style="list-style-type: none"> Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters' (and the foam time is > 0 s). Not visible for 'Milk Smart' systems. IMPORTANT REMARK: <ul style="list-style-type: none"> Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
waiting time foam 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Waiting time between the milk foam and the next component of the drink. 	0.0 - 9.9 s	-0.0 s (cappuccino) -0.0s (milk coffee) -2.0s (l. macchiato)	
select grinder right grinder	DESCRIPTION: <ul style="list-style-type: none"> Self explanatory. 	- left - right - left & right	- right	REMARK: <ul style="list-style-type: none"> When 'left & right' is selected an additional parameter 'grinder balance' will be shown.
powder quantity 9.0 g.	DESCRIPTION: <ul style="list-style-type: none"> Lower limit: if products are produced with less than 4 grams of coffee the brewer will contaminate very fast. Upper limit: absolute maximum amount of coffee that will fit into the brew chamber. 	4.0 - 16.0 gram	-9.0 gram (cappuccino) -9.0 gram (milk coffee) -8.5 gram (l. macchiato)	-
grinder balance L: 50% R: 50%	DESCRIPTION: <ul style="list-style-type: none"> Often used in self service applications where the same blend is used in two grinders to maximise capacity and to make sure that both containers are equally used. 	-	50/50	REMARK: <ul style="list-style-type: none"> Visible when 'select grinder' is set to 'left & right'.
strokes per button 01	DESCRIPTION: <ul style="list-style-type: none"> To create larger coffee volumes with one press on the button (jug). 	1 - 20	1	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
water quantity 40 ml	DESCRIPTION: ► Self explanatory.	1 - 600 ml	- 40 ml (cappuccino) - 40 ml (milk coffee) - 230 ml (l. macchiato)	-
bypass water 0.0 s	DESCRIPTION: ► IMPORTANT: the bypass valve will NEVER open longer then the brew valve. In case the time setting of the bypass valve exceeds the opening time of the brew valve the bypass valve will be closed together with the brew valve. ► To restrict the water flow over the bypass a 0.6mm restrictor is placed after the bypass valve. ► Refer to the description of the 'Americano' beverage for further possibilities with the by-pass valve, see page 7.	0 - 30.0 s	0.0 s	REMARK: ► Visible when 'bypass water available' is set to 'yes' in the system parameters.
initial pressure level 4	DESCRIPTION: ► Determines the pressure of the under piston against the ground coffee which is in the brew chamber. ► The pressure is created with the brewer motor. ► The higher the pressure the slower the coffee water will flow through the ground coffee in the brew chamber. ► Common settings: - 1 / 2: long coffees (without bypass). - 3 / 4: espresso and espresso related products like cappuccino. - 5: ristretto.	1 - 5 (1 is the lowest; 5 the highest)	- 4 (cappuccino) - 4 (milk coffee) - 3 (l. macchiato)	-
pre-infuse 10 ml	DESCRIPTION: ► The pre-infuse is a small 'shot' of water injected into the ground coffee after the initial pressure. Obviously this water is absorbed by the ground coffee due to which it expands. Since the absorption takes a little time a waiting time must be set (see next parameter). Due to the expansion of the coffee grounds the coffee water will find more resistance to pass the coffee. As a result of this the coffee water will flow slower. The slower the water flows the more time it has to absorb flavours and aroma's from the ground coffee. ► Commonly used for single shots of espresso's & ristretto's.	0 - 15 ml	- 10 ml (cappuccino) - 5 ml (milk coffee) - 10 ml (l. macchiato)	REMARK: ► 1 gram of coffee can absorb 1 ml of water (approximately). Therefore the amount of pre-infuse water should not exceed the amount of coffee powder.
delay pre-infuse 1.0s	DESCRIPTION: ► Common setting 1.0 - 1.5 s. ► Note that the waiting time adds up to the total dispensing time. Since a waiting time in excess of 2 seconds has a very minor influence towards the coffee taste it is seldom used.	0.0 - 9.9 s	- 1.0 s	REMARK: ► Visible when 'pre-infuse' > 0 ml.
chamber opening time 0 ms	DESCRIPTION: ► When the chamber is opened (under piston driving down) the ground coffee in the brew chamber gets more space. When there is more space the coffee water can pass the ground coffee easier (faster). Less aroma's and flavours are absorbed. ► Commonly used: - A low setting (10-30 ms): can have a positive effect on the taste of an espresso. - A high setting (100-200 ms): used for long coffees to prevent from over extraction.	0 - 200 ms	0 ms	-
wet pressing no	DESCRIPTION: ► Sometimes used for single shots of espresso's and ristretto's. ► Enables (in combination with a high initial pressure and pre-infuse) for the slowest possible flow of coffee water through the ground coffee in order to absorb the maximum amount of flavours and aroma's.	yes / no	no	REMARK: ► Visible when 'pre-infuse' > 0 ml AND 'open brew chamber' = 0.
2x grind quantity 14.0 g.	DESCRIPTION: ► Self explanatory.	4.0 - 16.0 gram	- 14.0 gram (cappuccino) - 14.5 gram (milk coffee) - 14.0 gram (l. macchiato)	REMARK: ► Visible when 'dispensing mode' is set to 'double'.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
2x initial pressure level 1	DESCRIPTION: <ul style="list-style-type: none"> ▶ Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down (more coffee means a much more thicker layer of coffee grounds in the brew chamber). Therefore it can be useful to set a lower initial pressure for a double shot then for the single shot. ▶ For double coffees usually the range of 1 - 2 applies. 	1 - 5	1	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'dispensing mode' is set to 'double'.
2x delay pre-infuse 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Pre-infuse is seldom used for double coffees. ▶ Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by pre-infuse will often result in over extraction. 	0.0 - 9.9 s	0.0 s	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'dispensing mode' is set to 'double'.
2x open brew chamber 0 ms	DESCRIPTION: <ul style="list-style-type: none"> ▶ Often used for long doubles to prevent from over extraction. Applicable range 100 - 200 ms. 	0 - 200 ms	-80 ms (cappuccino) -0 ms (milk coffee) -80 ms (l. macchiato)	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'dispensing mode' is set to 'double'.
2x wet pressing no	DESCRIPTION: <ul style="list-style-type: none"> ▶ Wet pressing is seldom used for double coffees. ▶ Since the diameter of the brew camber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by wet pressing will often result in over extraction. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'dispensing mode' is set to 'double' AND '2 x open brew chamber' = 0.
CAPPUCCINO, MILK COFFEE, LATTE MACCHIATO (BASED ON 'POWDER MILK')				
select product cappuccino	DESCRIPTION: <ul style="list-style-type: none"> ▶ As far as the parameters are concerned 'cappuccino', 'milk coffee' and 'latte macchiato' are equal in build up. ▶ This beverage can be programmed when: <ul style="list-style-type: none"> - A powder milk system is enabled in the system parameters. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ The sequence of the milk and coffee parameters depends on the setting of 'output sequence' (milk before / milk with / milk after / no milk). The order of programming is equal to the dispensing order. ▶ This programming example is valid for the following configurations: <ul style="list-style-type: none"> - powder milk system . - 2x powder milk system.
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> ▶ Determines the increment of the counters per brew cycle. 	0 - 20	1	-
output sequence milk after coffee	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	-milk before -milk with -milk after -no milk (new from 4.37).	-milk after (cappuccino) -milk after (milk coffee) -milk after (l. macchiato)	-
product preselection yes	DESCRIPTION: <ul style="list-style-type: none"> ▶ When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. ▶ When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications. 	yes / no	yes	-
dispensing mode single product	DESCRIPTION: <ul style="list-style-type: none"> ▶ Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ▶ When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ▶ Water, foam and milk amounts are doubled automatically. 	-single product -double product	-single	REMARK: <ul style="list-style-type: none"> ▶ Powder products can only be dispensed as single products (outlet construction: single outlet only).

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
product test	DESCRIPTION: <ul style="list-style-type: none"> ► From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ► Press 'on'. ► The LED's from all products that can be tested will be switched on. ► Select the product that requires testing. ► To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ► Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
select grinder right grinder	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	- left - right - left & right	- right (cappuccino) - right (milk coffee) - right (l. macchiato)	REMARK: <ul style="list-style-type: none"> ► When 'left & right' is selected an additional parameter 'grinder balance' will be shown.
powder quantity 9.0 g.	DESCRIPTION: <ul style="list-style-type: none"> ► Lower limit: if products are produced with less than 4 grams of coffee the brewer will contaminate very fast. ► Upper limit: absolute maximum amount of coffee that will fit into the brew chamber. 	4.0 - 16.0 gram	- 9.0 gram (cappuccino) - 9.0 gram (milk coffee) - 8.5 gram (l. macchiato)	-
grinder balance L: 50% R: 50%	DESCRIPTION: <ul style="list-style-type: none"> ► Often used in self service applications where the same blend is used in two grinders to maximise capacity and to make sure that both containers are equally used. 	-	50/50	REMARK: <ul style="list-style-type: none"> ► Visible when 'select grinder' is set to 'left & right'.
strokes per button 01	DESCRIPTION: <ul style="list-style-type: none"> ► To create larger coffee volumes with one press on the button (jug). 	1 - 20	1	-
water quantity 40 ml	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	1 - 600 ml	- 40 ml (cappuccino) - 40 ml (milk coffee) - 30 ml (l. macchiato)	-
bypass water 0.0 s	DESCRIPTION: <ul style="list-style-type: none"> ► Visible when 'bypass water available' is set to 'yes' in the system parameters. ► IMPORTANT: the bypass valve will NEVER open longer than the brew valve. In case the time setting of the bypass valve exceeds the opening time of the brew valve the bypass valve will be closed together with the brew valve. ► To restrict the water flow over the bypass a 0.6mm restrictor is placed after the bypass valve. ► Refer to the description of the 'Americano' beverage for further possibilities with the by-pass valve, see page 7. 	0 - 30.0 s	0.0 s	-
initial pressure level 4	DESCRIPTION: <ul style="list-style-type: none"> ► Determines the pressure of the under piston against the ground coffee which is in the brew chamber. ► The pressure is created with the brewer motor. ► The higher the pressure the slower the coffee water will flow through the ground coffee in the brew chamber. ► Common settings: <ul style="list-style-type: none"> - 1 / 2: long coffees (without bypass). - 3 / 4: espresso and espresso related products like cappuccino. - 5: ristretto. 	1 - 5 (1 is the lowest; 5 the highest)	- 4 (cappuccino) - 4 (milk coffee) - 3 (l. macchiato)	-
pre-infuse 10 ml	DESCRIPTION: <ul style="list-style-type: none"> ► The pre-infuse is a small 'shot' of water injected into the ground coffee after the initial pressure. Obviously this water is absorbed by the ground coffee due to which it expands. Since the absorption takes a little time a waiting time must be set (see next parameter). Due to the expansion of the coffee grounds the coffee water will find more resistance to pass the coffee. As a result of this the coffee water will flow slower. The slower the water flows the more time it has to absorb flavours and aroma's from the ground coffee. ► Commonly used for single shots of espresso's & ristretto's. 	0 - 15 ml	- 10 ml (cappuccino) - 5 ml (milk coffee) - 10 ml (l. macchiato)	REMARK: <ul style="list-style-type: none"> ► 1 gram of coffee can absorb 1 ml of water (approximately). Therefore the amount of pre-infuse water should not exceed the amount of coffee powder.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
delay pre-infuse 1.0s	DESCRIPTION: <ul style="list-style-type: none"> ► Common setting 1.0 - 1.5 s. ► Note that the waiting time adds up to the total dispensing time. Since a waiting time in excess of 2 seconds has a very minor influence towards the coffee taste it is seldom used. 	0.0 - 9.9 s	-1.0 s (cappuccino) -1.0 s (milk coffee) -1.0 s (l. macchiato)	REMARK: <ul style="list-style-type: none"> ► Visible when 'pre-infuse' > 0 ml.
chamber opening time 0 ms	DESCRIPTION: <ul style="list-style-type: none"> ► When the chamber is opened (under piston driving down) the ground coffee in the brew chamber gets more space. When there is more space the coffee water can pass the ground coffee easier (faster). Less aroma's and flavours are absorbed. ► Commonly used: <ul style="list-style-type: none"> - A low setting (10-30 ms): can have a positive effect on the taste of an espresso. - A high setting (100-200 ms): used for long coffees to prevent from over extraction.. 	0 - 200 ms	-0 ms (cappuccino) -0 ms (milk coffee) -0 ms (l. macchiato)	-
wet pressing no	DESCRIPTION: <ul style="list-style-type: none"> ► Sometimes used for single shots of espresso's and ristretto's. ► Enables (in combination with a high initial pressure and pre-infuse) for the slowest possible flow of coffee water through the ground coffee in order to absorb the maximum amount of flavours and aroma's. 	yes / no	no	REMARK: <ul style="list-style-type: none"> ► Visible when 'pre-infuse' > 0 ml AND 'open brew chamber' = 0.
2x grind quantity 14.0 g	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	4.0 - 16.0 gram	14.0 gram (cappuccino) 14.5 gram (milk coffee) 14.0 gram (l. macchiato)	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x initial pressure level 1	DESCRIPTION: <ul style="list-style-type: none"> ► Since the diameter of the brew chamber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down (more coffee means a much more thicker layer of coffee grounds in the brew chamber). Therefore it can be useful to set a lower initial pressure for a double shot then for the single shot. ► For double coffees usually the range of 1 - 2 applies. 	1 - 5	1	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x delay pre-infuse 0.0 s	DESCRIPTION: <ul style="list-style-type: none"> ► Pre-infuse is seldom used for double coffees. ► Since the diameter of the brew chamber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by pre-infuse will often result in over extraction. 	0.0 - 9.9 s	0.0 s	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x open brew chamber 0 ms	DESCRIPTION: <ul style="list-style-type: none"> ► Often used for long doubles to prevent from over extraction. Applicable range 100 - 200 ms. 	0 - 200 ms	80 ms (cappuccino) 0 ms (milk coffee) 80 ms (l. macchiato)	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double'.
2x wet pressing no	DESCRIPTION: <ul style="list-style-type: none"> ► Wet pressing is seldom used for double coffees. ► Since the diameter of the brew chamber is fixed the amount of coffee in the brew chamber will be a resistance for the coffee water thus slowing it down. Slowing it down even more by wet pressing will often result in over extraction. 	yes / no	no	REMARK: <ul style="list-style-type: none"> ► Visible when 'dispensing mode' is set to 'double' AND '2 x open brew chamber' = 0.
powder milk quantity 100ml	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	0 - 999 ml	100 ml (cappuccino) 100 ml (milk coffee) 100 ml (l. macchiato)	
flush water qty 20 ml	DESCRIPTION: <ul style="list-style-type: none"> ► Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains. 	20 - 50 ml	20 ml	REMARK: <ul style="list-style-type: none"> ► The flush water is a part of the water quantity which is set under 'powder milk quantity' (previous parameter).
waiting time milk 0.0 s	DESCRIPTION: <ul style="list-style-type: none"> ► Waiting time between the hot milk and the next component of the drink. 	0.0 - 15.0 s	0.0 s	

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
milk dispenser milk left	DESCRIPTION: ► Self explanatory.	-milk left -milk right	milk left	REMARK: ► Only visible when a '2 x milk powder' dosing unit is defined in the 'system parameters'.
powder ratio 50 %	DESCRIPTION: ► Controls the ratio of powder amount to water quantity. ► The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste.	20 - 100%	50%	
HOT MILK, COLD MILK (BASED ON 'FRESH MILK')				
select product milk	DESCRIPTION: ► This beverage can be programmed when: - A milk system is enabled - A steam boiler is active (2, 3 or 6 kW).	-	-	REMARK: ► This programming example is valid for the following configurations: - Milk Smart. - Milk Pump. - Centre Milk. - Twin Milk. ► For specific 'Twin Milk' parameters refer to page 26.
counted products 01	DESCRIPTION: ► Determines the increment of the counters per brew cycle.	0 - 20	1	-
dispensing mode start / stop	DESCRIPTION: ► Single product = Portioned: dispensing can't be interrupted and will run the total defined time (in this case cold milk time + hot milk time). ► Start/stop: Enables the operator to stop the dispensing at any time. ► Press/hold: product dispensing only takes place as long as the button is pressed. ► Double product: a double product will be dispensed when either the 2x click is used or the 2x preselection button is pressed prior to the product selection.	-single product -start/stop -press/hold -double product	start / stop	-
product test	DESCRIPTION: ► From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: ► Press 'on'. ► The LED's from all products that can be tested will be switched on. ► Select the product that requires testing. ► To leave the test mode press 'on'.	-	-	REMARK: ► Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
cold milk time 0.0 s.	DESCRIPTION: ► Self explanatory.	0.0 - 40.0 s	0.0 s	REMARK: ► Only visible when milk system 'Milk Pump, Centre Milk or Twin Milk' is activated. ► Not visible for 'Milk Smart' systems.
hot milk time 15.0 s.	DESCRIPTION: ► Self explanatory.	0.0 - 40.0 s	15.0 s	-
pump hot milk 55%	DESCRIPTION: ► The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ► Recommended is a temperature of ± 72 °C measured directly under the outlet in the milk stream. ► With a Milk Smart system the output temperature is determined with the milk restrictor which is attached to the blue hot milk hose.	45 - 100%	55%	REMARK: ► Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters' (and the hot milk time is > 0 s). ► Not visible for 'Milk Smart' systems. IMPORTANT REMARK: ► Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
HOT MILK (BASED ON 'POWDER MILK')				
<div>select product milk</div>	DESCRIPTION: ▶ This beverage can be programmed when: - A milk powder system is enabled.	-	-	REMARK: ▶ This programming example is valid for the following configurations: - milk powder. - 2 x milk powder. - choco + milk
<div>counted products 01</div>	DESCRIPTION: ▶ Determines the increment of the counters per brew cycle.	0 - 20	1	-
<div>dispensing mode start / stop</div>	DESCRIPTION: ▶ Single product = Portioned: dispensing can't be interrupted and will run the total defined time (in this case powder milk quantity). ▶ Start/stop: Enables the operator to stop the dispensing at any time. ▶ Press/hold: product dispensing only takes place as long as the button is pressed. ▶ Double product: a double product will be dispensed when either the 2x click is used or the 2x preselection button is pressed prior to the product selection.	-single product -start/stop -press/hold -double product	start / stop	-
<div>product test</div>	DESCRIPTION: ▶ From software 4.37 all programmed products can be tested without (in most cases)removing the service card. PROCEDURE: ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'.	-	-	REMARK: ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
<div>powder milk quantity 100ml</div>	DESCRIPTION: ▶ Self explanatory.	0 - 999 ml	100 ml	
<div>flush water qty 20 ml.</div>	DESCRIPTION: ▶ Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains.	20 - 50 ml	20 ml	REMARK: ▶ The flush water is a part of the water quantity which is set under 'powder milk quantity' (previous parameter).
<div>milk dispenser milk left</div>	DESCRIPTION: ▶ Self explanatory.	-milk left -milk right	milk left	REMARK: ▶ Only visible when a '2 x milk powder' dosing unit is defined in the 'system parameters'.
<div>powder ratio 50 %</div>	DESCRIPTION: ▶ Controls the ratio of powder amount to water quantity. ▶ The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste.	20 - 100%	50%	
MILK FOAM (BASED ON 'FRESH MILK')				
<div>select product milk foam</div>	DESCRIPTION: ▶ This beverage can be programmed when: - A fresh milk system is enabled (Milk Smart / Milk Pump / Centre Milk / Twin Milk; System parameters). - A steam boiler is active (2, 3 or 6 kW; System parameters).	-	-	REMARK: ▶ This programming example is valid for the following configurations: - Milk Smart. - Milk Pump. - Centre Milk. - Twin Milk. ▶ For specific 'Twin Milk' parameters refer to page 26.
<div>counted products 01</div>	DESCRIPTION: ▶ Determines the increment of the counters per brew cycle.	0 - 20	1	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
dispensing mode start / stop	DESCRIPTION: <ul style="list-style-type: none"> ▶ Single product = Portioned: dispensing can't be interrupted and will run the total defined time (in this case foam time). ▶ Start/stop: Enables the operator to stop the dispensing at any time. ▶ Press/hold: product dispensing only takes place as long as the button is pressed. ▶ Double product: a double product will be dispensed when either the 2x click is used or the 2x preselection button is pressed prior to the product selection. 	- single product - start/stop - press/hold - double product	start / stop	-
product test	DESCRIPTION: <ul style="list-style-type: none"> ▶ From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
foam time 10.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	0.0 - 40.0 s	10.0 s	
pump foam 65 %	DESCRIPTION: <ul style="list-style-type: none"> ▶ The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ▶ Recommended is a temperature of $\pm 65^{\circ}\text{C}$ measured directly under the outlet in the milk foam stream. ▶ With a Milk Smart system the output temperature is determined with the milk foam restrictor which is attached to the (transparent) foam hose. 	45 - 100 %	65 %	REMARK: <ul style="list-style-type: none"> ▶ Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters' (and the foam time is > 0 s). ▶ Not visible for 'Milk Smart' systems. IMPORTANT REMARK: <ul style="list-style-type: none"> ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
HOT WATER				
select product hot water	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	-	-	-
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> ▶ Determines the increment of the counters per brew cycle. 	0 - 20	1	-
dispensing mode start / stop	DESCRIPTION: <ul style="list-style-type: none"> ▶ Start/stop: Enables the operator to stop the dispensing at any time. ▶ Press/hold: product dispensing only takes place as long as the button is pressed. ▶ Portion control: dispensing can't be interrupted and will run the total defined time. 	- start/stop - press/hold - portion control	- start / stop	-
product test	DESCRIPTION: <ul style="list-style-type: none"> ▶ From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
water quantity 15.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	0.1 - 99.9 s	15.0 s	

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
NORMAL STEAM, POWER STEAM				
<div>select product steam</div>	DESCRIPTION: ▶ This beverage can be programmed when: - A steam boiler is active (2, 3 or 6 kW). - A steam outlet is defined.	-	-	▶ This programming example is valid for the following configurations: - Normal Steam (SCA). - Power Steam (SCA-P).
<div>counted products 01</div>	DESCRIPTION: ▶ Determines the increment of the counters per brew cycle.	0 - 20	1	-
<div>dispensing mode start / stop</div>	DESCRIPTION: ▶ Start/stop: Enables the operator to stop the dispensing at any time. ▶ Press/hold: product dispensing only takes place as long as the button is pressed. ▶ Portion control: dispensing can't be interrupted and will run the total defined time.	-start/stop -press/hold -portion control	-start / stop	-
<div>product test</div>	DESCRIPTION: ▶ From software 4.37 all programmed products can be tested without (in most cases)removing the service card. PROCEDURE: ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'.	-	-	REMARK: ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
<div>dosing time 90.0 s.</div>	DESCRIPTION: ▶ Self explanatory.	0.1 - 99.9 s	90.0 s	
AUTO STEAM				
<div>select product steam</div>	DESCRIPTION: ▶ This beverage can be programmed when: - A steam boiler is active (2, 3 or 6kW; System parameters). - An Auto Steam outlet is defined (System parameters).	-	-	-
<div>counted products 01</div>	DESCRIPTION: ▶ Determines the increment of the counters per brew cycle.	0 - 20	1	-
<div>dispensing mode start / stop</div>	DESCRIPTION: ▶ Start/stop: Enables the operator to stop the dispensing at any time. ▶ Press/hold: product dispensing only takes place as long as the button is pressed. ▶ Portion control: dispensing can't be interrupted and will run the total defined time.	-start/stop -press/hold -portion control	-start / stop	-
<div>product test</div>	DESCRIPTION: ▶ From software 4.37 all programmed products can be tested without (in most cases)removing the service card. PROCEDURE: ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'.	-	-	REMARK: ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
<div>dosing time 90.0 s.</div>	DESCRIPTION: ▶ Self explanatory.	0.1 - 99.9 s	90.0 s	-
<div>steam with sensor yes</div>	DESCRIPTION: ▶ Disables / enables the use of the temperature sensor in the steam wand.	yes / no	yes	-
<div>stop temperature 70 °C</div>	DESCRIPTION: ▶ Steam valve is closed when the set temperature is reached. ▶ Recommended temperatures: - Hot milk: 72 °C. - Milk foam: 65 °C.	50 - 80 °C	70 °C	REMARK: ▶ Only visible when 'steam with sensor' is yes.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
SUPER STEAM, FINE STEAM, SUPER & FINE STEAM				
<div>select product steam</div>	DESCRIPTION: ▶ This beverage can be programmed when: - A steam boiler is active (2, 3 or 6kW; System parameters). - A Super Steam / Fine Steam / Super & Fine Steam outlet is defined (System parameters).	-	-	-
<div>counted products 01</div>	DESCRIPTION: ▶ Determines the increment of the counters per brew cycle.	0 - 20	1	-
<div>dispensing mode start / stop</div>	DESCRIPTION: ▶ Start/stop: Enables the operator to stop the dispensing at any time. ▶ Press/hold: product dispensing only takes place as long as the button is pressed. ▶ Portion control: dispensing can't be interrupted and will run the total defined time.	-start/stop -press/hold -portion control	start / stop	-
<div>product test</div>	DESCRIPTION: ▶ From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'.	-	-	REMARK: ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
<div>steam valve super steam</div>	DESCRIPTION: ▶ Selection of the steam system. - super steam: 3 mm valve. - fine steam: 2.4 mm valve with 1.5 mm restrictor.	-fine steam -super steam	-super steam	REMARK: ▶ Only visible when 'super & fine steam' is released in the 'system parameters'.
<div>dosing time 90.0 s.</div>	DESCRIPTION: ▶ Self explanatory.	0.1 - 99.9 s	90.0 s	-
<div>steam with sensor yes</div>	DESCRIPTION: ▶ Disables / enables the use of the sensor in the steam wand.	yes / no	yes	-
<div>stop temperature 70 °C</div>	DESCRIPTION: ▶ Steam valve is closed when the set temperature is reached. ▶ Recommended temperatures: - Hot milk: 72 °C - Milk foam: 65 °C.	50 - 80 °C	70 °C	REMARK: ▶ Only visible when 'steam with sensor' is yes.
<div>foam consistency 0</div>	DESCRIPTION: ▶ This parameter controls the air pump. ▶ Setting: 0 means that no air will be injected. Result will be hot milk. ▶ Setting :1 - 20. - The higher the setting the longer the pump will run and the more air will be injected. - Setting 1: finest possible foam (micro-foam). The bubbles are as good as invisible. - Setting 20: very coarse foam with large visible bubbles.	0 - 20	0	REMARK: ▶ Only visible when 'steam with sensor' is yes. ▶ The setting of the (mechanical) needle valve has a substantial influence on the final result! ▶ From software 4.20 a small amount of air will be injected into the milk prior to the foaming action to reduce the noise. IMPORTANT REMARK: ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems (adjustment of the needle valve).

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
HOT CHOCOLATE (BASED ON 'FRESH MILK')				
<div>select product hot chocolate</div>	DESCRIPTION: ► This beverage type can be dispensed when one of the following 'powder systems' is activated in the 'system parameters': <ul style="list-style-type: none">- choco + milk.- 2 x choco powder.- choco powder. ► This programming example is valid for the following configurations:: <ul style="list-style-type: none">- Choco powder.- 2 x choco powder.- (the fresh milk system excludes the option milk powder). In combination with one of the following fresh milk systems: <ul style="list-style-type: none">- Milk Smart.- Milk Pump.- Centre Milk.- Twin Milk.	-	-	REMARK: ► Chocolate can be produced in the following ways (depending on availability of hardware): <ul style="list-style-type: none">- Chocolate powder only.- With cold milk.- With cold & hot milk.- With milk foam.- With cold milk & milk foam.- With cold milk, hot milk & milk foam. ► For specific 'Twin Milk' parameters refer to page 26.
<div>counted products 01</div>	DESCRIPTION: ► Determines the increment of the counters per beverage cycle.	0 - 20	1	-
<div>output sequence milk before</div>	DESCRIPTION: ► Defines if milk will be dispensed or not (hot water only). ► Defines when the milk will be dispensed.	-milk after chocolate. -milk before chocolate. -milk with chocolate. -no milk (new from release 4.37).	-milk before	
<div>product preselection yes</div>	DESCRIPTION: ► When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. ► When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications.	yes / no	yes	-
<div>dispensing mode single product</div>	DESCRIPTION: ► Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ► When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ► Water, foam and milk amounts are doubled automatically.	-single product -double product	-single product	-
<div>product test</div>	DESCRIPTION: ► From software 4.37 all programmed products can be tested without (in most cases)removing the service card. PROCEDURE: ► Press 'on'. ► The LED's from all products that can be tested will be switched on. ► Select the product that requires testing. ► To leave the test mode press 'on'.	-	-	REMARK: ► Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
<div>hot chocolate qty 100 ml</div>	DESCRIPTION: ► Self explanatory.	40 - 999 ml	100 ml	
<div>flush water qty 20 ml.</div>	DESCRIPTION: ► Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains.	20 - 50 ml	20 ml	REMARK: ► The flush water is a part of the water quantity which is set under 'hot chocolate qty' (previous parameter).
<div>choco dispenser left</div>	DESCRIPTION: ► Self explanatory.	-milk left -milk right	milk left	REMARK: ► Only visible when a '2 x choco' dosing unit is defined in the 'system parameters'.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
powder ratio 50 %	DESCRIPTION: <ul style="list-style-type: none"> Controls the ratio of powder amount to water quantity. The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste. 	20 - 100%	50%	
cold milk time 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Sometimes used to produce a latte macchiato however for special recipe's cold milk can also be added to cappuccino and milk coffee. 	0.0 - 40.0 s	0.0 s	REMARK: <ul style="list-style-type: none"> Only visible when 'Milk Pump / Centre Milk / Twin Milk' is activated in the 'system parameters'. Not visible for 'Milk Smart' systems.
hot milk time 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Self explanatory. 	0.0 - 40.0 s	0.0 s	-
pump hot milk 55 %	DESCRIPTION: <ul style="list-style-type: none"> The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). Recommended is a temperature of ± 72 °C measured directly under the outlet in the milk stream. With a Milk Smart system the output temperature is determined with the milk restrictor which is attached to the blue hot milk hose. 	45 - 100 %	55 %	REMARK: <ul style="list-style-type: none"> Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters'. Not visible for 'Milk Smart' systems. IMPORTANT REMARK: <ul style="list-style-type: none"> Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
waiting time milk 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Waiting time between the hot milk and the next component of the beverage. 	0.0 - 15.0 s	0.0 s	-
foam time 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Self explanatory. 	0.0 - 40.0 s	0.0 s	-
pump foam 65 %	DESCRIPTION: <ul style="list-style-type: none"> The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). Recommended is a temperature of ± 65 °C measured directly under the outlet in the milk foam stream. With a Milk Smart system the output temperature is determined with the milk foam restrictor which is attached to the (transparent) foam hose. 	45 - 100 %	65 %	REMARK: <ul style="list-style-type: none"> Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters' (and the foam time is > 0 s). Not visible for 'Milk Smart' systems. IMPORTANT REMARK: <ul style="list-style-type: none"> Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
waiting time foam 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> Waiting time between the milk foam and the next component of the drink. 	0.0 - 9.9 s	0.0 s	
HOT CHOCOLATE (BASED ON 'POWDER MILK')				
select product hot chocolate	DESCRIPTION: <ul style="list-style-type: none"> This beverage can be programmed when the following 'powder system' is activated in the 'system parameters': <ul style="list-style-type: none"> choco + milk. 	-	-	-
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> Determines the increment of the counters per beverage cycle. 	0 - 20	1	-
output sequence milk after	DESCRIPTION: <ul style="list-style-type: none"> Defines if milk will be dispensed or not (hot water only). Defines when the milk will be dispensed. 	-milk after chocolate. -milk before chocolate. -milk with chocolate. -no milk (new from release 4.37).	-milk after	
product preselection yes	DESCRIPTION: <ul style="list-style-type: none"> When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications. 	yes / no	yes	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
dispensing mode single product	DESCRIPTION: <ul style="list-style-type: none"> ▶ Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ▶ When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ▶ Water, foam and milk amounts are doubled automatically. 	-single product -double product	-single product	REMARK: <ul style="list-style-type: none"> ▶ Powder products can only be dispensed as single products (outlet construction: single outlet only).
product test	DESCRIPTION: <ul style="list-style-type: none"> ▶ From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
hot chocolate qty 100ml	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	40 - 999 ml	100 ml	
flush water qty 20 ml	DESCRIPTION: <ul style="list-style-type: none"> ▶ Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains. 	20 - 50 ml	20 ml	REMARK: <ul style="list-style-type: none"> ▶ The flush water is a part of the water quantity which is set under 'hot chocolate qty' (previous parameter).
powder ratio left 50 %	DESCRIPTION: <ul style="list-style-type: none"> ▶ Controls the ratio of powder amount to water quantity. ▶ The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste. 	20 - 100%	50%	
powder milk quantity 100ml	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	0 - 999 ml	100 ml	
flush water qty 20 ml	DESCRIPTION: <ul style="list-style-type: none"> ▶ Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains. 	20 - 50 ml	20 ml	REMARK: <ul style="list-style-type: none"> ▶ The flush water is a part of the water quantity which is set under 'powder milk qty' (previous parameter).
waiting time milk 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Waiting time between the hot milk and the next component of the beverage. 	0.0 - 15.0 s	-0.0 s	-
powder ratio right 50 %	DESCRIPTION: <ul style="list-style-type: none"> ▶ Controls the ratio of powder amount to water quantity. ▶ The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste. 	20 - 100%	50%	
HOT CHOCOLATE (BASED ON HOT WATER ONLY)				
select product hot chocolate	DESCRIPTION: <ul style="list-style-type: none"> ▶ This beverage can be programmed when: <ul style="list-style-type: none"> - No milk system is enabled in the 'System parameters'. - No milk powder system is enabled in the 'System parameters'. ▶ This programming example is valid for the following configurations:: <ul style="list-style-type: none"> - choco powder. - 2 x choco powder. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ If a milk system or milk powder system is defined then the parameter 'output sequence' will be shown (refer to programming examples: 'hot chocolate based on fresh milk' or 'hot chocolate based on powder milk'). Select 'no milk' under 'output sequence' in order to be able to dispense a chocolate without milk.
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> ▶ Determines the increment of the counters per beverage cycle. 	0 - 20	1	-
product preselection yes	DESCRIPTION: <ul style="list-style-type: none"> ▶ When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. ▶ When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications. 	yes / no	yes	-

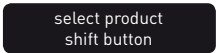
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
dispensing mode single product	DESCRIPTION: <ul style="list-style-type: none"> ► Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ► When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ► Water, foam and milk amounts are doubled automatically. 	- single product - double product	- single product	REMARK: <ul style="list-style-type: none"> ► Powder products can only be dispensed as single products (outlet construction: single outlet only).
product test	DESCRIPTION: <ul style="list-style-type: none"> ► From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ► Press 'on'. ► The LED's from all products that can be tested will be switched on. ► Select the product that requires testing. ► To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ► Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
hot chocolate qty 100ml	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	40 - 999 ml	100 ml	
flush water qty 20 ml	DESCRIPTION: <ul style="list-style-type: none"> ► Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains. 	20 - 50 ml	20 ml	REMARK: <ul style="list-style-type: none"> ► The flush water is a part of the water quantity which is set under 'hot chocolate qty' (previous parameter).
choco dispenser left	DESCRIPTION: <ul style="list-style-type: none"> ► Self explanatory. 	- milk left - milk right	milk left	REMARK: <ul style="list-style-type: none"> ► Only visible when a '2 x choco' dosing unit is defined in the 'system parameters'.
powder ratio 50 %	DESCRIPTION: <ul style="list-style-type: none"> ► Controls the ratio of powder amount to water quantity. ► The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste. 	20 - 100%	50%	
MOCCACHINO (BASED ON 'FRESH MILK')				
select product moccachino	DESCRIPTION: <ul style="list-style-type: none"> ► This programming example is valid for the following (powder system) configurations:: <ul style="list-style-type: none"> - choco powder. - 2 x choco powder. In combination with one of the following fresh milk systems: <ul style="list-style-type: none"> - Milk Smart. - Milk Pump. - Centre Milk. - Twin Milk. 	-	-	REMARK: <ul style="list-style-type: none"> ► Note that it is possible to produce a 'Moccachino' without milk for the purpose of making a 'coffee mocha'. ► For specific 'Twin Milk' parameters refer to page 26.
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> ► Determines the increment of the counters per beverage cycle. 	0 - 20	1	-
output sequence milk before	DESCRIPTION: <ul style="list-style-type: none"> ► Defines if milk will be dispensed or not (hot water only). ► Defines when the milk will be dispensed. 	- milk after chocolate. - milk before chocolate. - milk with chocolate. - no milk (new from release 4.37).	- milk before	-
product preselection yes	DESCRIPTION: <ul style="list-style-type: none"> ► When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. ► When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications. 	yes / no	yes	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
dispensing mode single product	DESCRIPTION: <ul style="list-style-type: none"> ▶ Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). ▶ When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. ▶ Water, foam and milk amounts are doubled automatically. 	-single product -double product	-single product	REMARK: <ul style="list-style-type: none"> ▶ Powder products can only be dispensed as single products (outlet construction: single outlet only).
product test	DESCRIPTION: <ul style="list-style-type: none"> ▶ From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> ▶ Press 'on'. ▶ The LED's from all products that can be tested will be switched on. ▶ Select the product that requires testing. ▶ To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
cold milk time 4.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Sometimes used to produce a latte macchiato however for special recipe's cold milk can also be added to cappuccino and milk coffee. 	0.0 - 40.0 s	4.0 s	REMARK: <ul style="list-style-type: none"> ▶ Only visible when 'Milk Pump / Centre Milk / Twin Milk' is activated in the 'system parameters'. ▶ Not visible for 'Milk Smart' systems.
hot milk time 0.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	0.0 - 40.0 s	0.0 s	-
pump hot milk 55 %	DESCRIPTION: <ul style="list-style-type: none"> ▶ The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ▶ Recommended is a temperature of $\pm 72^{\circ}\text{C}$ measured directly under the outlet in the milk stream. ▶ With a Milk Smart system the output temperature is determined with the milk restrictor which is attached to the blue hot milk hose. 	45 - 100 %	55 %	REMARK: <ul style="list-style-type: none"> ▶ Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters' (and the hot milk time is > 0 s). ▶ Not visible for 'Milk Smart' systems. IMPORTANT REMARK: <ul style="list-style-type: none"> ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
waiting time milk 2.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Waiting time between the hot milk and the next component of the beverage. 	0.0 - 15.0 s	2.0 s	-
foam time 8.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	0.0 - 40.0 s	8.0 s	-
pump foam 65 %	DESCRIPTION: <ul style="list-style-type: none"> ▶ The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ▶ Recommended is a temperature of $\pm 65^{\circ}\text{C}$ measured directly under the outlet in the milk foam stream. ▶ With a Milk Smart system the output temperature is determined with the milk foam restrictor which is attached to the (transparent) foam hose. 	45 - 100 %	65 %	REMARK: <ul style="list-style-type: none"> ▶ Only visible when 'Milk Pump, Centre Milk or Twin Milk' is activated in the 'system parameters' (and the foam time is > 0 s). ▶ Not visible for 'Milk Smart' systems. IMPORTANT REMARK: <ul style="list-style-type: none"> ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
waiting time foam 2.0 s.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Waiting time between the milk foam and the next component of the drink. 	0.0 - 9.9 s	2.0 s	
hot chocolate qty 100ml	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	40 - 999 ml	100 ml	
flush water qty 20 ml.	DESCRIPTION: <ul style="list-style-type: none"> ▶ Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains. 	20 - 50 ml	20 ml	REMARK: <ul style="list-style-type: none"> ▶ The flush water is a part of the water quantity which is set under 'hot chocolate qty' (previous parameter).
choco dispenser left	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	-milk left -milk right	milk left	REMARK: <ul style="list-style-type: none"> ▶ Only visible when a '2 x choco' dosing unit is defined in the 'system parameters'.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
powder ratio 50 %	DESCRIPTION: <ul style="list-style-type: none"> Controls the ratio of powder amount to water quantity. The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste. 	20 - 100%	50%	
coffee addition > see espresso (page 5)				
MOCCACHINO (BASED ON 'POWDER MILK')				
select product moccachino	DESCRIPTION: <ul style="list-style-type: none"> This programming example is valid for the following (powder system) configurations: <ul style="list-style-type: none"> - choco + milk. 	-	-	REMARK: <ul style="list-style-type: none"> Note that it is possible to produce a 'Moccachino' without milk for the purpose of making a 'coffee mocha'. For specific 'Twin Milk' parameters refer to page 26.
counted products 01	DESCRIPTION: <ul style="list-style-type: none"> Determines the increment of the counters per beverage cycle. 	0 - 20	1	-
output sequence milk after	DESCRIPTION: <ul style="list-style-type: none"> Defines if milk will be dispensed or not (hot water only). Defines when the milk will be dispensed. 	-milk after chocolate. -milk before chocolate. -milk with chocolate. -no milk (new from release 4.37).	- milk after	-
product preselection yes	DESCRIPTION: <ul style="list-style-type: none"> When set to 'yes': enables the possibility to preprogram a number of beverages. These beverages will be given out in a series. When set to 'no': operator must wait until the current product is finished until another similar product can be selected. This setting is used for self service applications. 	yes / no	yes	-
dispensing mode single product	DESCRIPTION: <ul style="list-style-type: none"> Double product enables the possibility to dispense double products in combination with a 2x-button or with the 'double-click' function (general parameters). When 'double product = yes' a number of additional parameters will be shown after the regular coffee parameters. Water, foam and milk amounts are doubled automatically. 	-single product -double product	-single product	REMARK: <ul style="list-style-type: none"> Powder products can only be dispensed as single products (outlet construction: single outlet only).
product test	DESCRIPTION: <ul style="list-style-type: none"> From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: <ul style="list-style-type: none"> Press 'on'. The LED's from all products that can be tested will be switched on. Select the product that requires testing. To leave the test mode press 'on'. 	-	-	REMARK: <ul style="list-style-type: none"> Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
hot chocolate qty 100ml	DESCRIPTION: <ul style="list-style-type: none"> Self explanatory. 	40 - 999 ml	100 ml	
flush water qty 20 ml.	DESCRIPTION: <ul style="list-style-type: none"> Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains. 	20 - 50 ml	20 ml	REMARK: <ul style="list-style-type: none"> The flush water is a part of the water quantity which is set under 'hot chocolate qty' (previous parameter).
powder ratio left 50 %	DESCRIPTION: <ul style="list-style-type: none"> Controls the ratio of powder amount to water quantity. The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste. 	20 - 100%	50%	
coffee addition > see espresso (page 5)	-	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
powder milk quantity 100ml	DESCRIPTION: ► Self explanatory.	0 - 999 ml	100 ml	
flush water qty 20 mL.	DESCRIPTION: ► Water which will be dispensed after the milk powder to clean the mixing bowl, hose and outlet from milk remains.	20 - 50 ml	20 ml	REMARK: ► The flush water is a part of the water quantity which is set under 'powder milk qty' (previous parameter).
waiting time milk 0.0 s.	DESCRIPTION: ► Waiting time between the hot milk and the next component of the beverage.	0.0 - 15.0 s	-0.0 s	-
powder ratio 50 %	DESCRIPTION: ► Controls the ratio of powder amount to water quantity. ► The higher the percentage set, the more powder per unit of water will be dosed, the stronger (richer) the taste.	20 - 100%	50%	
STEAM CUP HEATER (SWISS MARKET ONLY)				
select product steam cup heater	DESCRIPTION: ► The product is only visible when the steam cup heater is enabled in the 'system parameters'.	-	-	-
counted products 01	DESCRIPTION: ► Determines the increment of the counters per brew cycle.	0 - 20	1	-
dispensing mode start / stop	DESCRIPTION: ► Start/stop: Enables the operator to stop the dispensing at any time. ► Press/hold: product dispensing only takes place as long as the button is pressed.	-start/stop -press/hold	start / stop	-
product test	DESCRIPTION: ► From software 4.37 all programmed products can be tested without (in most cases) removing the service card. PROCEDURE: ► Press 'on'. ► The LED's from all products that can be tested will be switched on. ► Select the product that requires testing. ► To leave the test mode press 'on'.	-	-	REMARK: ► Under certain conditions the machine will prompt that it 'requires a restart' prior to the product test. In this case the SERVICE card must be removed and the machine restarted.
max heating time 15 s.	DESCRIPTION: ► Self explanatory.	1 - 99 s	15 s	
TWIN MILK PRODUCTS				
GENERAL INFORMATION: ► When 'Twin Milk' is configured in the 'system parameters' this will result in additional parameters at all fresh milk related beverages. These may include (depending on the further configuration of the machine): <div> <div>- Cappuccino</div> <div>standard beverage for Twin Milk.</div> </div> <div> <div>- Milk coffee</div> <div>standard beverage for Twin Milk.</div> </div> <div> <div>- Latte macchiato</div> <div>standard beverage for Twin Milk.</div> </div> <div> <div>- Hot milk</div> <div>standard beverage for Twin Milk.</div> </div> <div> <div>- Cold milk</div> <div>standard beverage for Twin Milk.</div> </div> <div> <div>- Milk foam</div> <div>standard beverage for Twin Milk.</div> </div> <div> <div>- Chocolate</div> <div>requires an optional chocolate powder system.</div> </div> <div> <div>- Moccachino</div> <div>requires an optional chocolate powder system.</div> </div>		-	-	-
select milk milk left	DESCRIPTION: ► Determines the milk source for this beverage.	-milk left -milk right -blended milk	-milk left	-
milk balance L: 50% R: 50%	DESCRIPTION: ► Defines the ratio of the milk taken from the left container versus the right container.	0 - 100%	50 / 50	REMARK: ► Only visible when 'select milk' = 'blended milk'.
cold milk time 0.0 s.	DESCRIPTION: ► Self explanatory.	0.0 - 40.0 s	0.0 s	-
hot milk time 0.0 s.	DESCRIPTION: ► Self explanatory.	0.0 - 40.0 s	0.0 s	-


Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
	DESCRIPTION: <ul style="list-style-type: none"> ▶ The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ▶ Recommended is a temperature of ± 72 °C measured directly under the outlet in the milk stream. ▶ With a Milk Smart system the output temperature is determined with the milk restrictor which is attached to the blue hot milk hose. 	45 - 100 %	55 %	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'hot milk time' > 0 and 'select milk' is 'milk left' or 'blended milk'. ▶ NOT visible when 'select milk' = 'milk right'. IMPORTANT REMARK: <ul style="list-style-type: none"> ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
	DESCRIPTION: <ul style="list-style-type: none"> ▶ The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ▶ Recommended is a temperature of ± 72 °C measured directly under the outlet in the milk stream. ▶ With a Milk Smart system the output temperature is determined with the milk restrictor which is attached to the blue hot milk hose. 	45 - 100 %	55 %	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'hot milk time' > 0 and 'select milk' is 'milk left' or 'blended milk'. ▶ NOT visible when 'select milk' = 'milk left'. IMPORTANT REMARK: <ul style="list-style-type: none"> ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
	DESCRIPTION: <ul style="list-style-type: none"> ▶ Waiting time between the hot milk and the next component of the beverage. 	0.0 - 15.0 s	0.0 s	-
	DESCRIPTION: <ul style="list-style-type: none"> ▶ Self explanatory. 	0.0 - 40.0 s	0.0 s	-
	DESCRIPTION: <ul style="list-style-type: none"> ▶ The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ▶ Recommended is a temperature of ± 65 °C measured directly under the outlet in the milk foam stream. ▶ With a Milk Smart system the output temperature is determined with the milk foam restrictor which is attached to the (transparent) foam hose. 	45 - 100 %	65 %	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'hot milk time' > 0 and 'select milk' is 'milk left' or 'blended milk'. IMPORTANT REMARK: <ul style="list-style-type: none"> ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
	DESCRIPTION: <ul style="list-style-type: none"> ▶ The speed of the pump determines the output temperature. The slower the pump runs the higher the output temperature (and vice versa). ▶ Recommended is a temperature of ± 65 °C measured directly under the outlet in the milk foam stream. ▶ With a Milk Smart system the output temperature is determined with the milk foam restrictor which is attached to the (transparent) foam hose. 	45 - 100 %	65 %	REMARK: <ul style="list-style-type: none"> ▶ Visible when 'hot milk time' > 0 and 'select milk' is 'milk right' or 'blended milk'. IMPORTANT REMARK: <ul style="list-style-type: none"> ▶ Refer to technical information 02/2010 for detailed informed regarding commissioning of milk systems.
	DESCRIPTION: <ul style="list-style-type: none"> ▶ Waiting time between the milk foam and the next component of the drink. 	0.0 - 9.9 s	0.0 s	
NO PRODUCT, PRE-SELECTION BUTTONS				
	DESCRIPTION: <ul style="list-style-type: none"> ▶ 'No product' effectively disables the button. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ This 'product' is always visible in the product pool.
	DESCRIPTION: <ul style="list-style-type: none"> ▶ Creates a preselection button for pre-ground coffee which is to be inserted through the pre-ground coffee funnel. This funnel is located between the two coffee containers. ▶ Machines produced after week 47/08 are equipped with a decaf sensor. If the sensor is enabled it is not required to define a decaf button [effectively the decaf cover functions as the button]. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ This 'product' is always visible in the product pool.
	DESCRIPTION: <ul style="list-style-type: none"> ▶ Creates a preselection button to dispense doubles. ▶ Alternative for the '2 x button' is the 'double click' function which can be found under the 'general parameters'. CONDITION: <ul style="list-style-type: none"> ▶ Double product dispensing must be released for each product by setting 'dispensing mode' to 'double product' in the 'product buttons' programming. 	-	-	REMARK: <ul style="list-style-type: none"> ▶ This 'product' is always visible in the product pool.

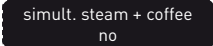
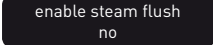
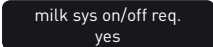
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
	DESCRIPTION: <ul style="list-style-type: none"> ► Creates a preselection button for the shift level (2nd level). ► Doubles up the amount of buttons in order to produce a wider variety of recipes with the machine. 	-	-	REMARK: <ul style="list-style-type: none"> ► This 'product' is always visible in the product pool. IMPORTANT REMARK: <ul style="list-style-type: none"> ► When a (previously assigned) shift button must be changed to any other product or preselection button the shift button must be pressed twice in order to be able to change it.

GENERAL PARAMETERS

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
language English	Language selection: English, German, French, Dutch, Polish, Spanish, Japanese, Danish.		English	REMARK: Traditional Chinese is integrated from software 5.03 (but requires special hardware).
temperature format Celsius	DESCRIPTION: ► Self explanatory.	- Celsius - Fahrenheit	- Celsius	-
temp. brew water 90 °C	RECOMMENDATION: ► Dark roasted coffee: 90 - 95 °C. ► Light - medium roasted coffee : 85 - 88 °C.	70 - 99 °C	90 °C	REMARK: ► Note that, in the background, an over temperature of 12°C will be present during idle times of the machine (no coffee dispensing) These 12°C will be reached in 18 minutes (Temperature is rising ± 0.66°C / minute).
temperature hot water 95 °C	DESCRIPTION: ► Self explanatory.	70 - 99 °C	95 °C	REMARK: From software 4.37: ► Always visible - also when hot water is dispensed from the coffee boiler. From software 4.37: ► Machines that dispense hot water from the coffee boiler: it is possible to set a separate hot water temperature. When 'HW: heat to set temp' = yes (see page 30) then the boiler will first heat up to the set temperature before the dispensing of the product is started.
temperature steam 135 °C	RECOMMENDATION: ► Milk Smart: 132 °C (For both SCA & SCA-P; 2kW or 3kW boiler). ► Super steam, Fine steam, Auto steam: 135 °C. ► Normal steam: 135 °C. ► Milk system CS: 132 °C (including combinations with e.g. power steam / auto steam).	115 - 140 °C	135 °C	-
2 x click no	DESCRIPTION: ► When set to 'yes': double products are dispensed by briefly pressing the product button twice within 1 second (double clicking). CONDITION: ► Double product dispensing must be released for each product by setting 'double product' to 'yes' in the 'product buttons programming'.	yes / no	no	-
standby after clean no	DESCRIPTION: ► When set to 'yes': machine will go to 'stand by' automatically after the cleaning.	yes / no	no	REMARK: ► In case 'flush coffee' is set to 'yes': the 'flush coffee' will be dispensed when the machine is switched 'on' (which is usually the next day).
flush coffee no	DESCRIPTION: ► When set to 'yes': immediately after the cleaning the machine will produce a so called 'flush coffee'. The flush coffee can be compared with a weak espresso. ► Usually flush coffee is used in a 24 hour situation where the machine is used continuously. Reason: after the cleaning the brew cylinder and sieve are wet. This often results in a water flow error during the dispensing of the first coffee immediately after the cleaning. The flush coffee prevents this from happening.	yes / no	no	REMARK: ► In case the machine is NOT operating in a 24 hour situation and the flush coffee is required upon switching the machine 'on' the next day then it the parameter 'standby after clean' must be enabled.
switch off rinsing no	DESCRIPTION: ► Rinses the brewer with hot water before switching off. ► Generally it is recommended to clean the machine before switching it off. However if this is not possible it is highly recommended to activate the switch off rinsing to remove at least some of the coffee remains from the brew unit.	yes / no	no	-
clean with coffee no	DESCRIPTION: ► When set to 'yes' 6 gram of coffee will be added to the cleaning tablet from the right grinder.	yes / no	no	REMARK: ► For special applications only. Generally it is not recommended to release this parameter.

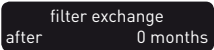
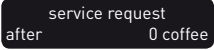
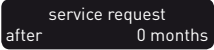
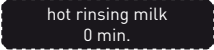
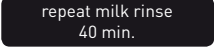
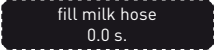
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
grounds cont. quant. 35	DESCRIPTION: <ul style="list-style-type: none"> ► For 'under counter waste': set to 0. ► It is recommended not to exceed the default setting of 35 coffee cakes. ► The message 'empty container' will be shown after 35 brew cycles. ► The machine will block the dispensing of coffee products after 40 brew cycles (set + 5) until the waste container is emptied. 	0 - 999	35	-
general pre-select yes	DEFINITION: <ul style="list-style-type: none"> ► Pre-selection: the possibility to preprogram the machine to dispense a number of the same beverages (example: 5 espresso's are required. Just press the button 5 times. The machine will dispense those beverages in a series). ► Mixed pre-selection: the possibility to preprogram the machine to dispense a number of different beverages (example: 1 espresso, 1 cappuccino and 1 coffee are required. Just press the respective buttons. The machine will dispense those beverages in a series). DESCRIPTION: <ul style="list-style-type: none"> ► When general pre-select is set to 'no' it is not possible to pre-select any beverages or to make any mixed pre-selection (regardless whether in the product programming product preselection is set to 'yes'). ► When general pre-select is set to 'yes' it depends on the next parameter (mixed selection mode) whether it is possible to make any mixed pre-selection and on the product programming (parameter product pre-selection) if it is possible to make any pre-selection. ► Usually both pre-selection & mixed pre-selection are set to 'yes' except for those situations when the machine is in self-service. 	yes / no	yes	-
mixed selection mode yes	DESCRIPTION: <ul style="list-style-type: none"> ► Refer to previous parameter ('general pre-select'). 	yes / no	yes	REMARK: <ul style="list-style-type: none"> ► Only visible when general 'pre-select = yes'.
wait for HW temp yes	DESCRIPTION: <ul style="list-style-type: none"> ► When active the dispensing of hot water will be locked when the actual temperature is more then 8° degrees lower then the set temperature. 	yes / no	yes	-
HW: heat to set temp no	DESCRIPTION: From software 4.37: <ul style="list-style-type: none"> ► Machines that dispense hot water from the coffee boiler: it is possible to set a separate hot water temperature. When 'wait for HW temp' = yes then the boiler will first heat up to the set temperature before the dispensing of the product is started. 	yes / no	no	-
on/off w. CHEF card no	DESCRIPTION: <ul style="list-style-type: none"> ► 'Electronic lock' function. ► When set to 'yes': machine can only be switched on/off by inserting the CHEF or the SERVICE card. 	yes / no	no	-
decaffeinated source manual filling	DESCRIPTION: <ul style="list-style-type: none"> ► This parameter relates with the preselection button for decaf or alternatively (if available & released) with the decaf sensor. ► Example: when decaffeinated source is set to 'grinder right' the right grinder is automatically selected when the decaf preselection button is pressed before the product button (although the product is programmed to use the left grinder). 	- manual filling - grinder left - grinder right	- manual filling	-
decaf inlet detect yes	DESCRIPTION: <ul style="list-style-type: none"> ► Only visible when decaf inlet sensor = yes in the system parameters. ► This parameter defines whether the decaffeinated / pre-ground coffee sensor at the inlet is active or not. 	yes / no	yes	REMARK: The decaf inlet sensor is a standard feature from production week 47/08 onwards.

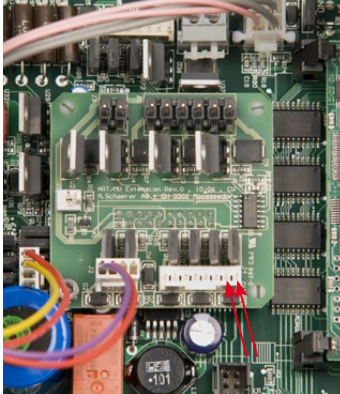
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
water tank supply no	DESCRIPTION: <ul style="list-style-type: none"> ► Only set to 'yes' when a 'Schaerer' fresh water tank with sensor is connected (see picture). ► Connection of the tank is on the main board: connector x103. Water tank connection: X103.3 GND / X103.4 signal. REMARK REGARDING PRE-INFUSE: <ul style="list-style-type: none"> ► Only when using the special 'Schaerer tanks' as shown in the pictures the pre-infuse is working correctly (the pressure pump is switched on the create water pressure; without the pump there would be no pressure and therefore no pre-infuse). ► If simple canisters are used instead of the special 'Schaerer tanks' and the pre-infuse is set for a product then this will result in a 'water flow error' due to the abundance of the water pressure. To overcome this problem a bridge can be placed to emulate the presence of a Schaerer tank with sensor (bridge x103 pins 3 & 4. In combination with the bridge the parameter 'fresh water tank' must be released. 	yes / no	no	
waste water tank no	DESCRIPTION: <ul style="list-style-type: none"> ► Only set to 'yes' when a 'Schaerer' waste water tank with sensor is connected (see picture). ► Connection of the tank is on the main board: connector x103. Water tank connection: X103.1 GND / X102.4 signal. 	yes / no	no	
milk level detection warning	DESCRIPTION: <ul style="list-style-type: none"> ► WARNING: A message is shown on the display when a low milk level is detected. Dispensing of milk products is possible. ► DISABLE SERVING: A message is shown on the display when a low milk level is detected. Dispensing of milk products is blocked. ► INTELLIGENT MODE: (new for software 5.03) gives the possibility to define an amount of milk products which still can be dispensed after the milk sensor has signalled low level. In case the set amount of additional products has been reached (defined in the next parameter 'milk products after empty') the dispensing of milk products is blocked. ► NO: Milk level detection is configured however not used. 	-no -warning -disable serving -intelligent mode	-warning	CONDITION: <ul style="list-style-type: none"> ► Only visible when 'milk level sensor = yes' in the 'system parameters'.
milk products after empty 20	DESCRIPTION: <ul style="list-style-type: none"> ► See previous parameter / intelligent mode. 	0 - 30	20	CONDITION: <ul style="list-style-type: none"> ► Only visible when 'milk level detection' is set to intelligent mode'.
cup detection yes	DESCRIPTION: <ul style="list-style-type: none"> ► This parameter defines whether the sensor is active or not. 	yes / no	yes	CONDITION: <ul style="list-style-type: none"> ► Only visible when 'cup sensor = yes' in the 'system parameters'.
blocked while clean yes	DESCRIPTION: <ul style="list-style-type: none"> ► When yes: when the 2nd machine is in cleaning: coffee products (without milk) can be dispensed from the 1st machine. ► When no: products can't be dispensed during cleaning by either of the machines. 	yes / no	no	CONDITION: <ul style="list-style-type: none"> ► Only visible when 'Centre Milk = yes' in the 'system parameters'.
brewer repress yes	DESCRIPTION: <ul style="list-style-type: none"> ► Special software option for the Japanese market. ► It is strongly recommended to keep the setting on 'yes'. ► When set to 'no': The second (re) pressing is switched off. Consequences are: <ul style="list-style-type: none"> - Some coffee will remain in the hose between brewer and outlet. This coffee will be dispensed during the next brewing (probably influencing the dispensing temperature) - The brew process is slightly faster. 	yes / no	yes	REMARK: <ul style="list-style-type: none"> ► In case the brewer repress is set to 'no' there is a serious risk on problems with the booster (coffee water / coffee particles remain in the booster which significantly increases the risk on blockages).

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
	DESCRIPTION: ► When set to 'yes' it is possible to dispense coffee & steam at the same time regardless of the coffee water temperature (similar to Ambiente-1).	yes / no	no	CONDITION: ► Only visible when 'mains connection' is set to 1 phase / 16 A in the 'system parameters'.
	DESCRIPTION: ► When set to 'yes' the steam boiler will be rinsed during the cleaning. The rinsing is done by overfilling the boiler followed by a process to remove the excess water. The excess water will come out of the steam wand (if available) or as a second possibility through the fresh milk system (steam injector in the outlet). ► It is recommended to enable the steam boiler rinsing!	yes / no	no	OBJECTIVE: ► Objective of the process: rinsing out the water which is saturated with minerals to prolong the life time of the boiler by preventing from excessive lime scale. (Note that any minerals that enter the boiler through the water supply will stay inside the boiler [steam is as good as free from minerals]. Therefore the water will eventually get saturated which will result in the formation of lime scale).
	DESCRIPTION: ► When set to 'yes' to machine will prompt 'milk system on/off' after the cleaning process. ► When set to 'no' to machine will not show the message 'milk system on/off' after the cleaning process.	yes / no	yes	

DATE / TIME / ALARM


Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
24hr time format yes	DESCRIPTION: ► Self explanatory.			
set clock 18:34	DESCRIPTION: ► Self explanatory.			
set date 28.01.2010	DESCRIPTION: ► Self explanatory.			
daylight saving time no	DESCRIPTION: ► NO: switched off ► EUROPE (EU): +1 hour from the last Sunday in March until the last Sunday in October. ► NORTH AMERICA: +1 hour from the second Sunday in March until the first Sunday in November.	-no -europe -north america	-no	
cleaning request no	DESCRIPTION: ► NO: switched off ► MESSAGE WITH ACKNOWLEDGE: - A message is shown on the display at the time set under 'cleaning request hh:mm'. - The machine will continue to operate. - The cleaning message will be shown every minute (the message can be cancelled with the '+' button; product dispensing is also possible when the message is on the screen). - If a cleaning is executed until 1 hour before the set time no message will be shown. ► MANDATORY: - A message is shown on the display at the time set under 'cleaning request hh:mm'. - The machine will continue to operate for 1 hour after the set time. After this hour the cleaning will start automatically with the message to remove the waste container. - The cleaning message will be shown every minute (the message can be cancelled with the '+' button; product dispensing is also possible when the message is on the screen). - If a cleaning is executed until 1 hour before the set time no message will be shown. ► Message only: - A message is shown on the display at the time set under 'cleaning request hh:mm'. - The machine will continue to operate.	-no -message with acknowledge -mandatory -message only	-no	
cleaning request hh:mm	REMARK: ► Note that 00:00 is a valid time!			CONDITION: ► Only visible when 'cleaning request' is set to 'message with ack.', 'mandatory' or 'message only' (see previous parameter).
filter exchange after 0 litre	DESCRIPTION: ► A message will be shown on the display when the set amount of litres is reached. ► The message can only be erased with the SERVICE-card in the 'read out counters' / 'service counters' menu. ► An 'early warning' message will be generated (at 13:00 every day) when the remaining amount of water goes below 5000 litres. The message must be cleared with the 'stop' button. ► IMPORTANT: do not forget to clear the counter during the first installation of the filter!	-0 - 99999 litres	-0 (no message)	RECOMMENDATION: ► Follow the instructions from the filter / descaling unit supplier.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
	DESCRIPTION: <ul style="list-style-type: none"> ► A message will be shown on the display when the set amount of months is reached. ► The message can only be erased with the SERVICE-card in the 'read out counters' / 'service counters' menu. ► An 'early warning' message will be generated (at 13:00 every day) when the remaining time goes below 30 days. The message must be cleared with the 'stop' button. ► IMPORTANT: do not forget to clear the counter during the first installation of the filter! 	0 - 24 months	-0 (no message)	RECOMMENDATION: <ul style="list-style-type: none"> ► Follow the instructions from the filter / descaling unit supplier.
	DESCRIPTION: <ul style="list-style-type: none"> ► A message will be shown on the display when the set amount of coffees is reached. ► The message can only be erased with the SERVICE-card in the 'read out counters' / 'service counters' menu. ► An 'early warning' message will be generated (at 13:00 every day) when the remaining amount of coffees goes below 5000 cups. The message must be cleared with the 'stop' button. ► IMPORTANT: do not forget to clear the counter during the first time the service request is set. 	0 - 99999 coffees	-0 (no message)	-
	DESCRIPTION: <ul style="list-style-type: none"> ► A message will be shown on the display when the set amount of months is reached. ► The message can only be erased with the SERVICE-card in the 'read out counters' / 'service counters' menu. ► An 'early warning' message will be generated (at 13:00 every day) when the remaining time goes below 30 days. The message must be cleared with the 'stop' button. ► IMPORTANT: do not forget to clear the counter during the first time the service request is set. 	0 - 24 months	-0 (no message)	-
	DESCRIPTION: <ul style="list-style-type: none"> ► Milk Smart: rinses the milk outlet through the steam injector with water from the coffee boiler (0.6mm restrictor in between). ► Milk Pump: rinses the milk outlet through the Milk Pump with water coming from the hot water boiler (0.6mm restrictor in between). 	0 - 90 minutes	-0 minutes (no rinsing) -recommended: 40 minutes.	CONDITION: <ul style="list-style-type: none"> ► Only visible when a milk system is enabled in the 'system parameters'. REMARK: <ul style="list-style-type: none"> ► Note that this rinsing is NOT repeating > see next parameter.
	DESCRIPTION: <ul style="list-style-type: none"> ► Repeats the rinsing with the set interval until a milk product is dispensed. ► Recommended for those situations where the machine is working for 24 hours and only an occasional milk product is dispensed. 	0 - 180 minutes	-0 minutes (no repeating) -recommended: 40 minutes.	CONDITION: <ul style="list-style-type: none"> ► Only visible when 'hot rinsing milk' > 0. REMARK: <ul style="list-style-type: none"> ► No repeat: set to 0.
	DESCRIPTION: <ul style="list-style-type: none"> ► Starts a hot rinsing of the brewer xx minutes after the last dispensed coffee product (every time a coffee is dispensed the timer goes back to 0) ► Disadvantage: after the rinse the brew cylinder and sieve are wet. There is a risk that this results in a water flow error during the dispensing of the next product. 	0 - 60 minutes	-0 minutes (no rinsing)	-
	DESCRIPTION: <ul style="list-style-type: none"> ► Refills the milk hose after the rinse with fresh milk. ► Advantage: (1) remaining (rinsing) water is removed from the milk hose. (2) milk dosages are stable. 	0 - 19.9 seconds	-0 (no filling)	CONDITION: <ul style="list-style-type: none"> ► Only visible when the milk system is set to 'Milk Pump', 'Centre Milk' or 'Twin Milk' in the 'system parameters'.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
alarm output	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► The alarm output (see picture) can be activated by a large number of selectable machine messages and errors (a selection out of approx. 40 errors and messages can be made). For instance the output can be activated when the machine has a water flow error, a grinder empty, low milk level or a full waste container. The alarm output can be connected to a light or buzzer on distance in order to warn an operator that there is reason to check the status of the machine. ► The alarm notification is sometimes used for machines in self-service. In this case the operator is informed by the machine directly rather than that a customer is complaining that the machine is out of order. 	-	-	 <ul style="list-style-type: none"> ► The alarm output is situated on connector J8 pin 7 & 8. ► When the output is active 30VDC will be supplied from J4-8 by a transistor. ► A cable 069'715 is required which connects the output to an external 24VDC Potter & Brumfield relay (063'770).
timer operation	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► TIMER OPERATION: Defines the day for the next 3 parameters (range: Monday - Sunday). ► TIMER ON: Defines if the timer will be active on the set day (range: yes / no). ► TIMER ON AT: Defines the time that the machine is switched 'on' (range: 00:00 - 23:59). ► TIMER OFF AT: Defines the time that the machine is switched 'off' (range: 00:00 - 23:59). 	-miscellaneous	-no	<p>REMARKS:</p> <ul style="list-style-type: none"> ► 00:00 is a valid time!





Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
telemetry parameters	<p>DESCRIPTION:</p> <p>► DAILY STAT INTERVAL:</p> <ul style="list-style-type: none"> - Minimum interval: 15 minutes. - Defines with which interval the 'daily statistics' (counters) are send to the server. <p>► ERROR STAT INTERVAL:</p> <ul style="list-style-type: none"> - Minimum interval: 15 minutes. - Defines with which interval the 'error statistics' are send to the server. <p>► MACH STAT INTERVAL:</p> <ul style="list-style-type: none"> - Minimum interval: 15 minutes. - Defines with which interval the 'machine statistics' are send to the server. <p>► SERV STAT INTERVAL:</p> <ul style="list-style-type: none"> - Minimum interval: 15 minutes. - Defines with which interval the 'service statistics' are send to the server. <p>► EVENT SEND INTERVAL:</p> <ul style="list-style-type: none"> - Minimum interval: 1 minute. - Defines with which interval the 'events' are send to the server. (Event: 'operator' orientated messages like: beans empty, no milk etc). <p>► DAILY STAT START DATE:</p> <ul style="list-style-type: none"> - Defines from which date onwards the 'daily statistics' (counters) are going to be send to the server. <p>► ERROR STAT START DATE:</p> <ul style="list-style-type: none"> - Defines from which date onwards the 'error statistics' are going to be send to the server. <p>► MACH STAT START DATE:</p> <ul style="list-style-type: none"> - Defines from which date onwards the 'machine statistics' are going to be send to the server. <p>► SERV STAT START DATE:</p> <ul style="list-style-type: none"> - Defines from which date onwards the 'service statistics' are going to be send to the server. <p>► EVENT START DATE:</p> <ul style="list-style-type: none"> - Defines from which date onwards the 'events' are going to be send to the server. <p>► DAILY STAT START TIME:</p> <ul style="list-style-type: none"> - Defines from which time onwards the 'daily statistics' (counters) are going to be send to the server. <p>► ERROR STAT START TIME:</p> <ul style="list-style-type: none"> - Defines from which time onwards the 'error statistics' are going to be send to the server. <p>► MACH STAT START TIME:</p> <ul style="list-style-type: none"> - Defines from which time onwards the 'machine statistics' are going to be send to the server. <p>► SERV STAT START TIME:</p> <ul style="list-style-type: none"> - Defines from which time onwards the 'service statistics' are going to be send to the server. <p>► EVENT START TIME:</p> <ul style="list-style-type: none"> - Defines from which time onwards the 'events' are going to be send to the server. 	-	-	<p>CONDITION:</p> <p>► Visible when 'enable telemetry' = yes (system parameters).</p> <p>REMARKS:</p> <p>► Press 'on' to enter the telemetry parameters</p> <p>► Note that this feature is still in an development / experimental stage.</p>

TEST / CALIBRATION

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
non stop test	DESCRIPTION: ▶ Selected product will be given out (30 times - counting down or until the stop button is pressed)	all programmed products	-	-
move brew cylinder	DESCRIPTION: ▶ Brew cylinder can be moved from upper to lower position with the '-' and '+' button. ▶ The brewer will be restored to the 'home' position when 'standby' is pressed and the test will be terminated.	-	-	-
adjust pump pressure	DESCRIPTION: ▶ The pump pressure must be set (with the aid of this routine) in the following situations: - When the machine is newly installed. - When the machine is moved to another location. - When the pump is replaced. - During preventive maintenance (minimum 1x per year). - When there is any doubt about the correct function of the pump. ▶ Recommended pressure is 7.5 - 8 bar.	-	-	 <p>REMARK: ▶ Refer to the detailed description in technical information 02-2010 SCA 'Commissioning' (page 2).</p>
output test	GENERAL DESCRIPTION:	-	-	ADDITIONAL DETAIL INFORMATION:
	<div>output test</div> <div>return start</div> <p>▶ Press 'start' to activate the main relay and to go to the test menu.</p>			<div>V9 main water valve</div> <div>off</div> <p>▶ 'V9' refers to the number of the valve which is shown on the electrical diagrams of the machine (V refers to valves, M refers to motors).</p>
	<div>main relay</div> <div>is on</div> <p>▶ This screen is shown for a short while after which the next screen pops up automatically.</p>			<div>M8/M14 PWM milk pump</div> <div>0</div> <p>▶ It is possible to control the speed of the milk pump in steps of 5%.</p>
	<div>V9 main water valve</div> <div>< off ></div> <p>▶ Press 'standby' to start the output test</p>			PROCEDURE: ▶ Press 'enter' so the brackets '<>' appear. ▶ Use the '+' button the step up the speed. ▶ Use the '-' button the step down the speed. ▶ The motor will start to run from ± 40%.
water drainage	<div>buzzer</div> <div>< off ></div> <p>▶ Press the '+' or the '-' button to navigate through the output test menu.</p>	-	-	-
	DESCRIPTION: ▶ Special function for the coffee machine production at Schaerer Switzerland. ▶ After the final functional test of the machine all water must be removed before transportation (winter time / air transport). For this purpose 3 bar of clean air pressure is connected to the machine (instead of the water supply). Subsequently the drainage will be started. All valves will be opened and the water will be blown out. The boilers are manually drained afterwards. ▶ Once the drainage has been executed the machine will automatically start with a fill-up procedure next time when it is switched on.			

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>calibrate grinders</div>	<p>DESCRIPTION:</p> <p>► In the 'product buttons' programming the amount of coffee is entered in grams (rather than in steps). For this reason the performance of the grinder (how many grams of coffee the grinder can grind within a certain amount of time) must be established. The performance depends on factors as: sharpness of the blades, hardness of the beans, oil content of the beans, grind level setting, humidity etc.</p> <p>WHEN IS IT NECESSARY TO CALIBRATE THE GRINDERS:</p> <ol style="list-style-type: none"> 1. When the machine is new (Schaerer does calibrate the grinders during the 'end-of-line' test however for this purpose a special test coffee is used. This blend is certainly different from the one you are using. Therefore calibration results will differ). 2. When the grind level is changed (finer - coarser). 3. When the coffee blend is changed. 4. When the grinding discs are changed. 5. When the grinder is opened. 6. When data is transferred with the SAVE-DATA card from one machine to another. 	<p>Calibration range:</p> <p>-Grinders with springs: ±19 - ±27 gram.</p> <p>-Grinders without springs: ±15 - ±22 gram.</p>	-	<p>IMPORTANT REMARK:</p> <p>► A detailed procedure can be found in technical information 02-2010 SCA 'Commissioning' (page 6).</p>
<div>left grinder empty grinder-left 2.05A</div> <div>right grinder empty grinder-right 2.05A</div>	<p>DESCRIPTION:</p> <p>► During grinding the grinder current is (continuously) measured.</p> <p>► The 'nominal grinder current' during grinding is in the range of ± 2.5 - 5.5 A (depending mainly on hardness of the beans and grind level setting).</p> <p>► The 'grinder empty current' is in the range of ± 1.0 - 2.5A.</p> <p>PROCEDURE:</p> <p>► In case of empty messages while there are still beans in the container: lower the empty current to, for instance, 1.5 A and try again (grinder and grinding discs must be in a good condition).</p>	0.00 - 5.00 A.	2.05 A	<p>REMARK:</p> <p>► 0.00 results in NO message!</p>

READ OUT COUNTERS

	General	Adjustment		Remarks / Pictures
		Range	Default	
   	DESCRIPTION: ► Many of the parameters are self-explanatory; in those cases they are NOT mentioned or no comment is added. REMARK: ► The counters can be accessed by various chip cards: - SERVICE: READ & WRITE in all menu's - CHEF: READ in all menu's / WRITE in the daily counters only (delete). - ROASTER: READ in all menu's / WRITE in the daily counters only (delete). - CUP: READ only.	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
daily counters	► Shows the erasable counters of the machine.	-	-	-
machine counters	► Shows the nonerasable counters of the machine.	-	-	-
service counters	► Shows the service counters of the machine.	-	-	► These counters can be viewed with the CHEF-CARD but can only be erased with a 'SERVICE CARD'.
cleaning statistics xx	► Shows date & time of the last 30 cleaning's.	-	-	-
error statistics xx	► Shows date & time of the last 30 error's.	-	-	► The error list can be cleared in the 'edit' mode of the 'system parameters'.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
daily counters	► Most menu items are 100% self explanatory and therefore not mentioned in this overview. <div>products (buttons)</div> PROCEDURE: 1. Press 'on' to enter. 2. Press the product button from which the throughput is required. 3. Press '-' to return to step 1.	-	-	REMARK: ► The daily counters can be viewed & erased with the following cards: - CHEF-CARD. - ROASTER-CARD - SERVICE-CARD ► The daily counters can be viewed with the following card: - CUP-CARD.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
machine counters	► All menu items are 100% self explanatory and therefore not mentioned in this overview.	-	-	REMARK: ► The machine counters can be viewed only with the following cards: - CHEF-CARD. - ROASTER-CARD - SERVICE-CARD - CUP-CARD.



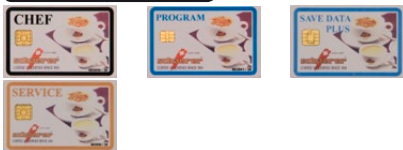
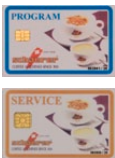

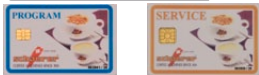
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
service counters	<div>brew cycles brewer xx</div> DESCRIPTION: <ul style="list-style-type: none"> ► It is recommended to clear the counter when the brewer is exchanged or (preventive) maintenance is done. 	-	-	REMARK: <ul style="list-style-type: none"> ► The service counters can be viewed & erased with the following card: <ul style="list-style-type: none"> - SERVICE-CARD ► The daily counters can be viewed with the following cards: <ul style="list-style-type: none"> - CUP-CARD. - CHEF-CARD. - ROASTER-CARD.
	<div>brew cycles motor xx</div> DESCRIPTION: <ul style="list-style-type: none"> ► It is recommended to clear the counter when the brewer motor is exchanged. 	-	-	
	<div>time gr. motor L [h] 0.0x</div> DESCRIPTION: <ul style="list-style-type: none"> ► It is recommended to clear the counter when the (left) grinder motor is exchanged. 	-	-	
	<div>time gr. motor R [h] 0.0x</div> DESCRIPTION: <ul style="list-style-type: none"> ► It is recommended to clear the counter when the (right) grinder motor is exchanged. 	-	-	
	<div>air pump running time 0.0x</div> DESCRIPTION: <ul style="list-style-type: none"> ► Shows the running time of the air pump. ► It is recommended to clear the counter when the air pump is exchanged. 	-	-	
	<div>relay coffee xxx</div> DESCRIPTION: <ul style="list-style-type: none"> ► Shows the amount of relay cycles. ► It is recommended to clear the counter when the heater control board is exchanged. 	-	-	
	<div>relay HW 1 xxx</div> DESCRIPTION: <ul style="list-style-type: none"> ► Shows the amount of relay cycles. ► It is recommended to clear the counter when the heater control board is exchanged. 	-	-	
	<div>relay HW 2 xxx</div> DESCRIPTION: <ul style="list-style-type: none"> ► Shows the amount of relay cycles. ► It is recommended to clear the counter when the heater control board is exchanged. 	-	-	
	<div>relay steam 1 xxx</div> DESCRIPTION: <ul style="list-style-type: none"> ► Shows the amount of relay cycles. ► It is recommended to clear the counter when the heater control board is exchanged. 	-	-	
	<div>relay steam 2 xxx</div> DESCRIPTION: <ul style="list-style-type: none"> ► Shows the amount of relay cycles. ► It is recommended to clear the counter when the heater control board is exchanged. 	-	-	
	<div>grind qty G-right x0.0 g</div> DESCRIPTION: <ul style="list-style-type: none"> ► It is recommended to clear the counter when the discs are exchanged. 	-	-	

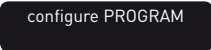

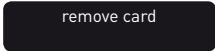
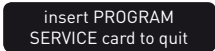


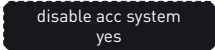
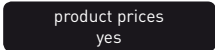
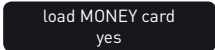
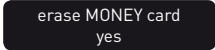
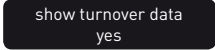
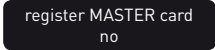
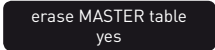
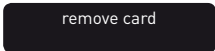
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
service counters	<div>grind qty G-left x0.0 g</div> <p>DESCRIPTION:</p> <p>► It is recommended to clear the counter when the discs are exchanged.</p>	-	-	<p>REMARK:</p> <p>► The service counters can be viewed & erased with the following card:</p> <ul style="list-style-type: none"> - SERVICE-CARD <p>► The daily counters can be viewed with the following cards:</p> <ul style="list-style-type: none"> - CUP-CARD. - CHEF-CARD. - ROASTER-CARD.
	<div>runtime w-pump [h] 0.0x</div> <p>DESCRIPTION:</p> <p>► It is recommended to clear the counter when the pump is exchanged.</p>	-	-	
	<div>last filter change 10.01.2010</div> <p>DESCRIPTION:</p> <p>► This parameter must be overwritten with the current date under the following conditions:</p> <ul style="list-style-type: none"> - When a filter is installed for the first time. - When the filter is changed. <p>► Result:</p> <ul style="list-style-type: none"> - The counters are cleared (litres & months). - The message is removed from the display. 	-	-	
	<div>last service 10.01.2010</div> <p>DESCRIPTION:</p> <p>► This parameter must be overwritten with the current date under the following conditions:</p> <ul style="list-style-type: none"> - When a service is set for the first time. - When the service is executed. <p>► Result:</p> <ul style="list-style-type: none"> - The counters are cleared (coffee's & months). - The message is removed from the display. 	-	-	






Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>cleaning statistics xx</div>	<p>► Shows date & time of (maximum) the last 30 cleaning's (based on FiFo).</p> <div>cleaning xx/xx 09.03.2008 21:31</div>	empty - 30	-	<p>REMARK:</p> <p>► The cleaning statistics can be viewed only with the following cards:</p> <ul style="list-style-type: none"> - CHEF-CARD. - ROASTER-CARD - SERVICE-CARD - CUP-CARD. <p>► The cleaning statistics are not erasable.</p>




Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>error statistics xx</div>	<p>► Shows date & time of (maximum) the last 30 error's (based on FiFo).</p> <div>HW sensor def. 16.09.2008 20:15></div>	empty - 30	-	<p>REMARKS:</p> <p>► The error statistics can be viewed only with the following cards:</p> <ul style="list-style-type: none"> - CHEF-CARD. - ROASTER-CARD - SERVICE-CARD - CUP-CARD. <p>► The error statistics can be erased in the 'system parameters - edit mode' (new for software 5.03).</p>


CHIP CARD SERVICE

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>erase card</div> 	<p>DESCRIPTION:</p> <p>► Function to erase SAVE-DATA, CHEF and PROGRAM cards in order to be able to use them on a different machine then they were used before.</p> <p>► PROCEDURE:</p> <ol style="list-style-type: none"> Press 'enter':  Remove the SERVICE card from the card reader: <div>remove card</div> Insert CHEF, SAVE-DATA, PROGRAM or SERVICE card: <div>insert card SERVICE card to quit</div>  As soon as the card has been erased successfully it can be removed. It is possible to erase as many cards as required. <div>card erased remove card</div> 			
<div>change PIN</div> 	<p>DESCRIPTION:</p> <p>► Function to place a PIN code on a card or to change an existing PIN code.</p> <p>► PROCEDURE:</p> <ol style="list-style-type: none"> Press 'enter':  Remove the SERVICE card from the card reader: <div>remove card</div> Insert PROGRAM or SERVICE card: <div>insert card which PIN must be changed</div>  Enter the new PIN code: <div>new PIN code < _000 ></div> Finished: <div>PIN code changed remove card</div> 			



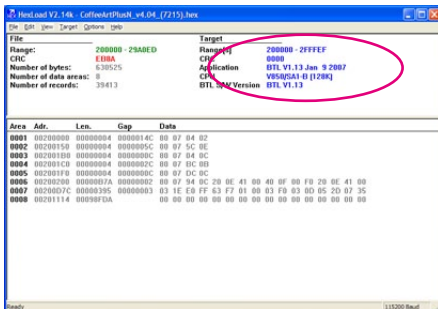

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
	<p>DESCRIPTION:</p> <p>► Function to customize the PROGRAM card (enable / disable menu's).</p> <p>► PROCEDURE:</p> <p>1. Press 'enter':</p>  <p>2. Remove the SERVICE card from the card reader:</p>  <p>3. Insert CHEF, SAVE-DATA, PROGRAM or SERVICE card:</p>     <p>- Allows the user of the card to enable / disable the accounting system (only visible when an accounting system is enabled).</p>  <p>- Allows the user of the card to change prices.</p>  <p>- Allows to load money onto MONEY cards (until maximum the set amount as defined in the 'payment parameters'..</p>  <p>- Allows to remove the credit from MONEY cards.</p>  <p>- Allows the user of the card to view the turnover data.</p>  <p>- Allows the user of the card to register MASTER cards.</p>  <p>- Allows the user of the card to erase the table in which all MASTER cards are registered.</p> <p>4. Remove the PROGRAM card from the card reader:</p> 			

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>load statistics</div> 	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► Function to load the counter data to the machine from the SAVE DATA card (in case the main board has been exchanged). <p>PROCEDURE:</p> <ol style="list-style-type: none"> 1. Press 'enter':  2. Remove the SERVICE card from the card reader: <div>remove card</div> 3. Insert SAVE-DATA card: <div>insert SAVE DATA SERVICE card to quit</div>   4. Counter data is being loaded into the machine: <div>----- DailyStatistic</div> 5. Remove the SAVE DATA card and insert the SERVICE CARD. <div>data loaded!</div> 	-	-	-
<div>product prices</div>	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► Set price(s). ► Set token price(s). ► Set article numbers. 	-	-	<p>IMPORTANT REMARK:</p> <ul style="list-style-type: none"> ► The PROGRAM card simulation is only functional when a payment system is enabled (with the SERVICE card). If no payment system is enabled the message: 'no menu item enabled' will be shown on the display.
<div>MONEY load amount</div>	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► To load money onto a MONEY card. 	-	-	
<div>show turnover data</div>	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► Money (total / erasable). ► Tokens (total / erasable). ► CCI (total / erasable) ► MONEY from Schaerer MONEY system (total / erasable). ► MASTER (total / erasable). 	-	-	
<div>simulate PROGRAM</div> 	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► Switch the accounting system off or on. 	-	-	
<div>disable acc system no</div>	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► Switch the accounting system off or on. 	-	-	
<div>register MASTER card</div>	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► Will only be shown when the setting for menu: SERVICE card - 'payment systems' - 'MONEY-card' - 'free vend' = yes (the same menu point can be found under: SERVICE card: 'payment systems' - 'accounting system' - 'free vend' = yes). ► To release MASTER cards which can be used for free vends. 	-	-	

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>simulate PROGRAM</div> 	<div>erase MASTER table</div> <p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► Will only be shown when the setting for menu: SERVICE card - 'payment systems' - 'MONEY-card' - 'free vend' = yes (the same menu point can be found under: SERVICE card: 'payment systems' - 'accounting system' - 'free vend' = yes). ► All previously registered MASTER cards will be erased. 	-	-	-
	<div>read out counters</div> <ul style="list-style-type: none"> ► See counter menu (page 39). 	-	-	-
	<div>product buttons</div> <p>1. Press 'enter':</p>  <div>select product press button</div> <p>DESCRIPTION</p> <ul style="list-style-type: none"> - Existing products can be edited. - Powder amounts, water quantities, foam amounts, milk amounts etc can be changed. - It is NOT possible to allocate new products. 	-	-	-
<div>simulate CHEF</div> 	<div>system settings</div> <p>► Press 'enter':</p>  <div>machine number yy.ww.xxx'xxx</div> <p>Read only.</p> <div>customer number xx</div> <p>Read only.</p> <div>language</div> <p>Can be set to English, German, French, Dutch, Polish, Spanish, Danish and Japanese (status January 2010).</p> <div>24h time format yes</div> <div>set clock xx:xx</div> <div>set date xx.xx.xxxx</div> <div>daylight-saving time no</div> <p>► Options are:</p> <ul style="list-style-type: none"> - no - Europa (EU) - North America 	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>simulate CHEF</div> 	<div>timer operation</div> <p>► See the description timer operation (page page 35).</p>	-	-	-
	<div>switch off machine < no ></div> <p>► Only visible when the parameter 'switch off with CHEF' has been enabled in the general parameters.</p> <p>► Select 'yes' and take out the CHEF card to switch off the machine.</p>	-	-	-


SOFTWARE UPGRADE



Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
GENERAL INFORMATION REGARDING THE 'SOFTWARE UPGRADE':				
<p>► There are two ways to upgrade the software:</p> <p>1. Conventional: establishing the communication between computer and machine by interrupting the mains supply. For detailed information refer to technical information 021/07 [CPU] Programming.</p> <p>2. With the software upgrade routine (as described below). Essential differences towards the first method:</p> <ul style="list-style-type: none">- No interruption of the mains supply required.- The use of a SAVE-DATA card (to create a backup of the settings) is mandatory.				
software upgrade execute with 'on'	<p>DESCRIPTION:</p> <p>► Press the on/off button to initiate the software upgrade:</p> 	-	-	
remove card abort	<p>DESCRIPTION:</p> <p>► Remove the SERVICE CARD.</p>	-	-	
insert SAVE-DATA abort	<p>DESCRIPTION:</p> <p>► Insert a SAVE DATA PLUS card (when not accepted the card needs to be erased [refer to page 42; 'Chip Card Service']).</p> 	-	-	
----- ProductConfig	<p>DESCRIPTION:</p> <p>► Data is being saved.</p>	-	-	
download will start after card removed	<p>PROCEDURE (COMPUTER):</p> <p>► Connect the computer.</p> <p>► Start Hexload.</p> <p>► Set the correct communication options (baudrate / communication port). For details refer to the technical information 012 / 2009 [CPU] Programming.</p> <p>► Load the file which needs to be transferred into Hexload (example: CoffeeArtPlusN_v5.03_[9648].hex).</p> <p>► Remove the SAVE-DATA card from the machine.</p> <p>► Verify if blue text appears in the Hexload window (see screen shot below). No blue text means no communication - usually in this case the communication settings are incorrect.</p> <p>► Press F9.</p> 	-	-	
	<p>DURING THE UPGRADE PROCESS:</p> <p>► When the communication is established and the download has been started with the F9 function key the display shows a number of squares as shown in the display image (left hand side).</p>			<p>IMPORTANT REMARK:</p> <p>► Refer to the technical information 012 / 2009 [CPU] Programming for a comprehensive description.</p>
<< standby >>	<p>AFTER THE UPGRADE PROCESS:</p> <p>► The machine will automatically revert to the standby mode.</p>			

ADDITIONAL INFORMATION: SOFTWARE UPGRADE WITHOUT LAPTOP

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
GENERAL INFORMATION:				
► In case the technician does not have laptop at his disposal, but receives pre-programmed cpu’s from the office instead, the correct procedure is as follows:				

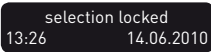
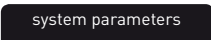
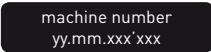
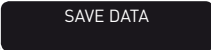
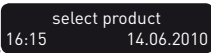
	STEP 1:			
system parameters	1. Insert the SERVICE card, navigate to the 'system parameters' and read out the machine number.	-	-	-
machine number yy.mm.xxx'xxx	2. Remove the SERVICE card.	-	-	-


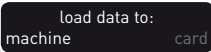
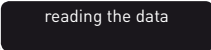
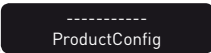
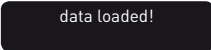
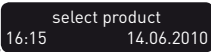
	STEP 2:			
select product 13:15 11.06.2010	1. Make sure the machine is idle.	-	-	-
	2. Insert the SAVE DATA CARD.	-	-	-
load data to: machine card	3. Select load data to 'card'.	-	-	-
----- ProductConfig	4. The data is being saved to the card.	-	-	-
data stored!	5. Remove the SAVE DATA card after the process.	-	-	-

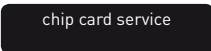
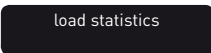
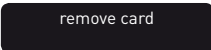
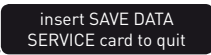
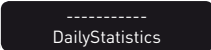
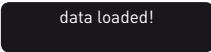
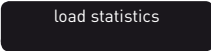
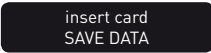
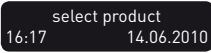
	STEP 3:			
	1. Separate the machine from the mains supply. 2. Open the machine and swap the CPU. 3. Connect the machine to the mains supply. 4. Switch the machine 'on'.	-	-	 ► Take the appropriate ESD precautions!!

	STEP 4:			
system parameters	1. Insert the SERVICE card and navigate to the 'system parameters'.			
edit parameter	2. Go to 'edit parameters' (pin code 9119).			
Master Reset execute with 'on'	3. Navigate to 'Master Reset' and execute the 'Master Reset' by pressing 'on'.			
standby	4. After the completion of the Master Reset the machine will (automatically) go into stand by. Remove the SERVICE card.			

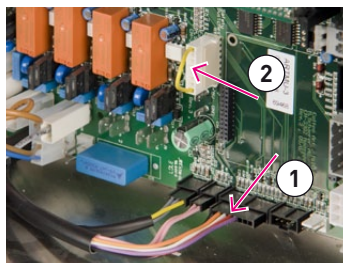
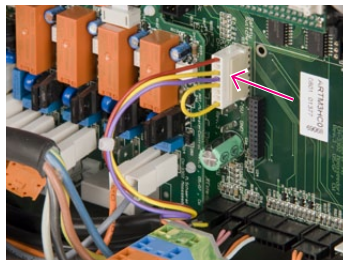
	STEP 5:			
fill up execute with 'on'	1. Switch the machine 'on'. Automatically the machine will go into the fill-up programme. Start the fill-up by pressing 'on'.			
safety switches yes no	2. The machine will prompt to enter 'safety switches: yes/no'.			► For detailed information regarding the setting of the safety switches see page 48
filling 01:21	3. The actual fill up process can be cancelled after 30 seconds (remaining time on the display 01:00) by pressing the '+/stop' button.			

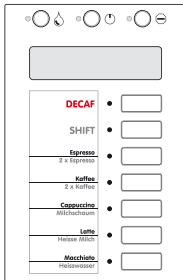
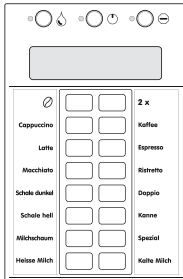
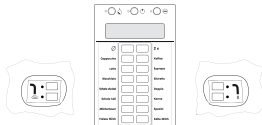
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
	STEP 6:			
1 	1. Since the machine had a 'Master Reset' no products are programmed at this point. Therefore the display shows: 'selection locked'.	-	-	-
2 	2. Insert the SERVICE card, navigate to the 'system parameters' and enter the machine number as found under step 1.	-	-	-
2 				
3 	3. Remove the SERVICE card and cancel the prompt for the SAVE DATA card with the '+'/'stop' button.	-	-	-
4 	4. Switch the machine 'on'.	-	-	-



	STEP 7:			
1 	1. Insert the SAVE DATA card.	-	-	-
2 	2. Select load data to 'machine'.	-	-	-
3 	3. All data (except for the counter data) will be restored to the machine.	-	-	-
3 				
3 				
4 	4. Remove the SAVE DATA card and switch the machine 'on'.	-	-	-

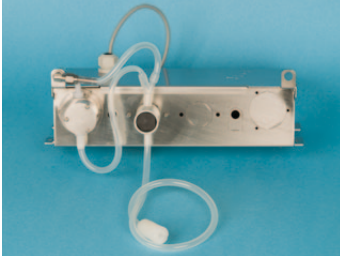

	STEP 8:			
1 	1. Insert the SERVICE card and navigate to 'chip card service'.			
2 	2. Navigate to the menu 'load statistics' and press the 'on' button.			
3 	3. Remove the SERVICE card.			
4 	4. Insert the SAVE DATA card.			
5 	5. The counter data is being restored.			
6 	6. Remove the SAVE DATA card and place the SERVICE card.			
7 	7. Remove the SERVICE card.			
8 	8. Cancel the prompt for the SAVE DATA card with the '+'/'stop' button			
9 	9. Switch the machine 'on' > DONE!!			

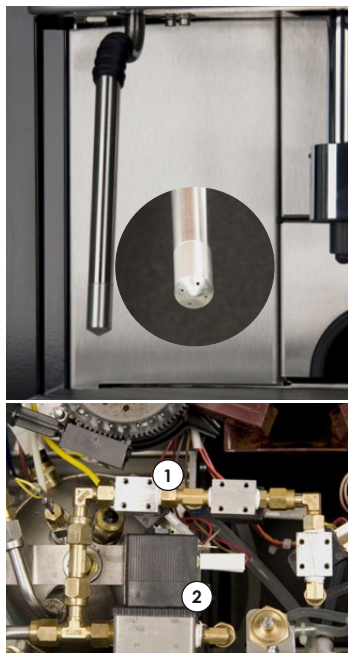
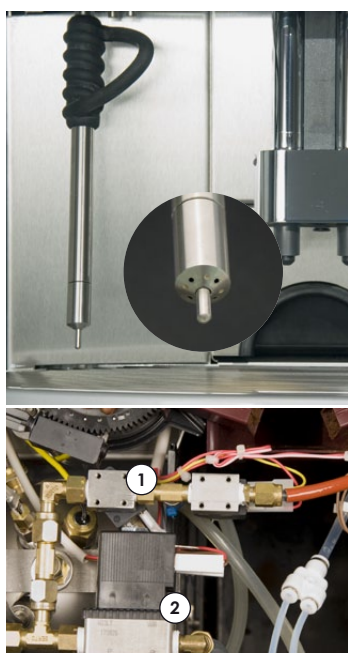
SYSTEM PARAMETERS

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
GENERAL INFORMATION REGARDING THE 'SYSTEM PARAMETERS':				
The 'system parameters' contains the following information: ▶ Power requirements of the machine. ▶ Installed options. Based on the information stored in the system parameters the software will be customized. This customizing results in showing parameters that apply to the configuration of the machine and/or removal of parameters that do not apply to the configuration. Advantage is that the risk on wrong settings (as possible in the past) is substantially reduced. Since the machine is build according to customer specifications there is no reason to change the settings in the system para-meters. Therefore they are protected by a PIN-code. The PIN-code is available on request (Schaerer-support) for those situations where options are added or removed and for specific software upgrades.				
MAIN MENU TREE OF THE 'SYSTEM PARAMETERS'				
<div>edit parameter</div>	<div>DESCRIPTION:</div> <div>▶ To change the configuration settings (requires a PIN code; contact Schaerer Technical Support).</div> <div>PIN code < _000 ></div>	-	-	-
<div>view parameter</div>	<div>DESCRIPTION:</div> <div>▶ For viewing purposes only (verification of the settings).</div>	-	-	-
<div>coffee art 5.03 [9648]</div>	<div>DESCRIPTION:</div> <div>▶ Shows the currently installed software level.</div> <div>▶ No edit possibility / view only.</div>	-	-	-
<div>machine number yy.ww.xxx.xxx</div>	<div>DESCRIPTION:</div> <div>▶ The machine number is stored on the SAVE-DATA card when it is entered for the first time.</div> <div>▶ When a SAVE-DATA card is entered the machine number on the card and the machine number stored in this parameter must be equal otherwise the card will be rejected.</div>	-	-	<div>▶ yy: production year.</div> <div>▶ ww: production week.</div> <div>▶ xxx.xxx: serial number.</div>
<div>customer number 2</div>	<div>DESCRIPTION:</div> <div>▶ The customer number is stored on the CHEF card when it is entered for the first time.</div> <div>▶ When a CHEF card is entered the customer number on the card and the customer number stored in this parameter must be equal otherwise the card will be rejected.</div>	-	2	-
<div>safety switches yes no</div>	OLD WIRING (MACHINES PRODUCED BEFORE WEEK 24 / 2007) → SAFETY SWITCHES = 'NO'			
	<div>▶ Old wiring can be recognized by the red and purple wire on connector X9 (switches waste container & cover) See arrow '1' in the picture.</div> <div>▶ In addition a wire bridge (069'504) is placed on X15. See arrow '2' in the picture.</div> <div>▶ All Coffee Art standard machines produced before week 24/2007 have old wiring.</div>	yes/no	yes	
	NEW WIRING (MACHINES PRODUCED AFTER WEEK 23 / 2007) → SAFETY SWITCHES = 'YES'			
	<div>▶ New wiring can be recognized by the red, yellow and purple wire on connector X15 (switches waste container & cover) See arrow in the picture.</div> <div>▶ All Coffee Art Plus machines have new wiring.</div> <div>▶ All Coffee Art standard machines produced after week 23/2007 have new wiring.</div>	yes/no	yes	

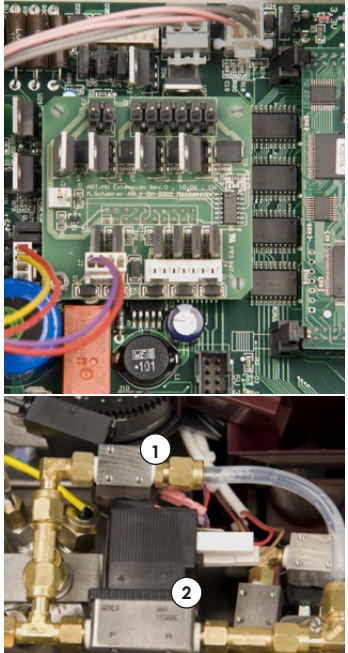
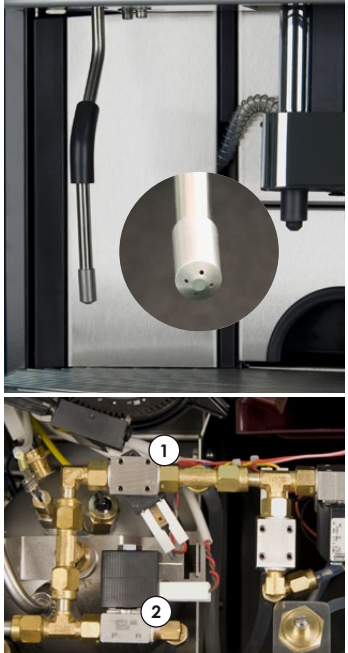
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
EDIT / VIEW PARAMETER				
Power settings				
<div>mains connection 1 phase 16A</div>	DESCRIPTION: ▶ SCA standard: default setting. ▶ SCA-P: might be used however with a significantly reduced performance. ▶ Maximum one heating element is switched on.	-1 phase 16A -1 phase 30A -3 phase 16A	-1 phase 16A	IMPORTANT REMARKS: ▶ In general: verify the machine serial plate before making any change in settings! ▶ It is NOT allowed to rewire the machine to customize it to suit local power requirements. Such customizing must be done by the manufacturer (required are: high voltage test / isolation test + change of serial plate).
<div>mains connection 1 phase 30A</div>	DESCRIPTION: ▶ SCA-P: for special power applications only. ▶ Maximum two heating elements are switched on at the same time.			
<div>mains connection 3 phase 16A</div>	DESCRIPTION: ▶ Check machine serial plate. ▶ SCA-P: default setting. ▶ Maximum three heating elements are switched on at the same time.			
Button panel settings				
<div>mounted button panel 7 normal buttons</div>	DESCRIPTION: ▶ Automatically detected.	-	-	
<div>mounted button panel remote keypad-8but</div>	DESCRIPTION: ▶ Special application (requires additional optional hardware). ▶ Must be enabled in case an external keypad (8 buttons + display) is available.; note that a 'second shift' will be available under the 'product parameters'.	-	-	-
<div>mounted button panel 16 normal buttons</div>	DESCRIPTION: ▶ Automatically detected.	-	-	
ADDITIONAL BUTTONS	DESCRIPTION: ▶ The additional buttons (above the steam & hot water outlet) are automatically detected.	-	-	

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Steam boiler settings				
steam boiler steam 2kW	DESCRIPTION: ► SCA standard: default setting.	- 2 kW - 3 kW - (6 kW) - not active	- 3 kW	-
steam boiler steam 3kW	DESCRIPTION: ► SCA-P: default setting.			-
steam boiler steam 6kW	DESCRIPTION: ► Only visible when 'mains connection' is set to 1 phase 30A or 3 phases 16A. ► SCA-P: special option (can be recognized at two elements on the boiler).			-
steam boiler not active	DESCRIPTION: ► Switches the steam boiler off completely and disables all steam related products.			-
Hot water boiler settings				
hot water source from coffee boiler	DESCRIPTION: ► SCA standard: default setting. ► SCA-P: special option (machine with only 2 boilers: 1 steam / 1 coffee).	- from coffee boiler - 2 kW - 3 kW - 6 kW - not active	- 3 kW	-
hot water source hot water 2kW	DESCRIPTION: ► SCA standard: special option (machine with coffee and hot water boiler but NO steam boiler)			-
hot water source hot water 3kW	DESCRIPTION: ► SCA-P: default setting.			-
hot water source hot water 6kW	DESCRIPTION: ► Only visible when 'mains connection' is set to 1 phase 30A or 3 phases 16A. ► SCA-P: special option.			-
hot water source not active	DESCRIPTION: ► Switches the hot water boiler off completely and disables all hot water related products.			-
Milk system settings				
fresh milk system no	DESCRIPTION: ► No automatic milk system available.	- no - Milk Smart - Milk Pump - Centre Milk - Twin Milk	- no	-
fresh milk system Milk Smart	DESCRIPTION: ► Setting for machines equipped with venturi milk system: - With mechanical air restrictor. - With air pump.	- no - Milk Smart - Milk Pump - Centre Milk - Twin Milk	- Milk Smart	Milk Smart with mechanical restrictor (<2008):  Milk Smart with Air Pump (>01/2008): 




Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
fresh milk system milk pump	DESCRIPTION: ► Setting for machines equipped with cold milk system.	-no -Milk Smart -Milk Pump -Centre Milk -Twin Milk	-Milk Pump	Milk Pump system 'on the counter':  Milk Pump system 'under counter': 
fresh milk system Centre Milk	DESCRIPTION: ► Setting for a combination of 2 machines with the Milk Pump system in between.	-no -Milk Smart -Milk Pump -Centre Milk -Twin Milk	-Centre Milk	
fresh milk system Twin Milk	DESCRIPTION: ► Setting for a machine with 2 different milk types in the fridge. Machine is equipped with 2 Milk Pumps and 2 squeezer valves (doubling the functions of a 'CS' machine). ► The machine is equipped with an additional relay to select between the 2 pumps and squeezer valves.	-no -Milk Smart -Milk Pump -Centre Milk -Twin Milk	-Twin Milk	
Powder system settings				
powder system no	DESCRIPTION: ► Powder system not available or disabled.	no / milk powder / choco powder / choco + milk / 2 x choco / 2 x milk	no	-
powder system milk powder	DESCRIPTION: ► Machine has a side module with a 1 kg milk powder container.			-
powder system choco powder	DESCRIPTION: ► Machine has a side module with a 1 kg chocolate powder container.			-
powder system choco + milk	DESCRIPTION: ► Machine has a side module with a combined container for 0.5kg milk powder and 0.5kg chocolate powder (twin-topping).			-
powder system 2 x choco	DESCRIPTION: ► Machine has a side module with a container for 2 different chocolate powders with a capacity of 2 x 0.5kg.			-
powder system 2 x milk	DESCRIPTION: ► Machine has a side module with a container for 2 different milk powders with a capacity of 2 x 0.5kg.			-

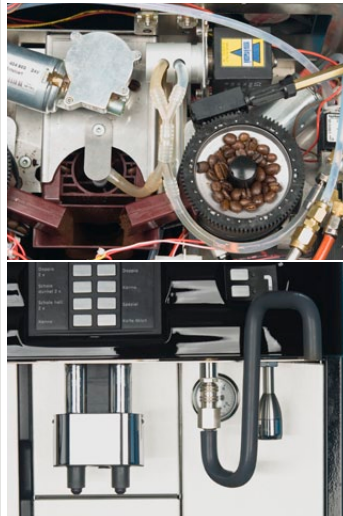
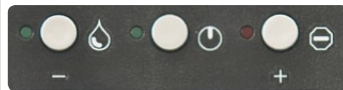

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Steam outlet settings				
steam outlet no	DESCRIPTION: ► Setting for machines without steam outlet (for instance a machine with only Milk Smart).	no / power steam / auto steam / super steam / fine steam / super & fine steam / normal steam	no	
steam outlet power steam	DESCRIPTION: ► SCA standard: n/a. ► SCA +: standard steam wand with 3kW / 1 litre boiler. No temperature sensor. ► Refer to the pictures below (right picture: combination of Power Steam & CS Milk System).	- fine steam	no	 <p>1. CS steam valve 2.4 mm. 2. Power steam valve 3.0 mm.</p>
steam outlet auto steam	DESCRIPTION: ► SCA standard: n/a. ► SCA +: steam wand with 3kW / 1 litre boiler and with temperature sensor. ► Refer to the pictures (combination of Auto Steam & Milk Smart - Milk Smart with mechanical air restrictor).	- no - power steam - auto steam - super steam - fine steam - super & fine steam - normal steam	- auto steam	 <p>1. Milk Smart steam valve 2.4 mm. 2. Auto steam valve 3.0 mm.</p>

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
steam outlet super steam	DESCRIPTION: <ul style="list-style-type: none"> ► SCA standard: not available. ► SCA-P: Fully automatic steam wand with air pump & temperature sensor. ► Refer to the pictures. 	- no - power steam - auto steam - super steam - fine steam - super & fine steam - normal steam	- super steam	 <p>1. Super steam valve 3.0 mm.</p>
steam outlet fine steam	DESCRIPTION: <ul style="list-style-type: none"> ► SCA standard: n/a.. ► SCA-P: Fully automatic steam wand with air pump & temperature sensor. Intended for small quantities: 'foaming in the cup' (minimum qty 50ml). ► Refer to the pictures. 	- no - power steam - auto steam - super steam - fine steam - super & fine steam - normal steam	- fine steam	 <p>1. Fine steam valve 2.4 mm.</p> <p>► Note that also for this application the small additional pcb (option print 069'601) as shown under 'super & fine steam' is used.</p>

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>steam outlet super & fine steam</div>	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► SCA standard: n/a. ► SCA +: combination of super and fine steam. A small additional pcb is placed on top of the standard main board to control the steam valve for the fine steam (option print 069'601). ► Refer to the pictures and the picture under 'super steam' on the previous page. 	-no -power steam -auto steam -super steam -fine steam -super & fine steam -normal steam	-super & fine steam	 <p>1. Fine steam valve 2.4 mm (with 1.5mm restrictor). 2. Super steam valve 3.0 mm.</p>
<div>steam outlet normal steam</div>	<p>DESCRIPTION:</p> <ul style="list-style-type: none"> ► SCA standard: steam outlet based on a 2kW boiler. ► SCA +: not available (always, in minimum, power steam). ► Refer to the picture below (Normal Steam combined with Milk Smart). 	-no -power steam -auto steam -super steam -fine steam -super & fine steam -normal steam	-normal steam	 <p>1. Milk Smart steam valve 2.4 mm. 2. Normal steam valve 2.4 mm.</p>

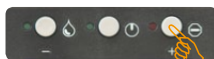
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Steam Cup Heater				
<div>steam cup heater no</div> <div>REMARK: Option is only available for the Swiss market!</div>	<div>DESCRIPTION:</div> <div>► The steam cup heater is, by itself, a mechanical steam valve.</div> <div>► The steam cup heater is supplied with steam through an electrically controlled steam valve.</div> <div>► For this reason the steam cup warmer is controlled by a product button which opens the electro mechanical steam valve. When the cup is pressed onto the steam cup heater the mechanical valve inside the cup heater is opened and steam is supplied to the cup.</div>	yes/no	no	
Brewer motor				
<div>brewer motor 36V model</div>	<div>DESCRIPTION:</div> <div>► This setting does NOT influence the supply voltage of the motor but defines the current that is applied to the motor.</div> <div>► If the wrong setting is chosen this will NOT result in a wrong home position of the brewer as may be expected. However the consequence will be that the wrong current level will be used eventually resulting in damage / destruction of the motor.</div> <div>IMPORTANT REMARK:</div> <div>► Note that in software 5.03 it has been decided that the parameter 'brewer motor' can only be used as follows:</div> <div><div>- Previous settings will be taken over: 24V before upgrade > 24V after upgrade (36V before > 36V after).</div><div>- Change from 24V to 36V is possible.</div><div>- Change from 36V to 24 V is NOT possible.</div></div> <div>RECOMMENDED PROCEDURE (prior to a software upgrade):</div> <div>► If the machine is already equipped with the 36V brewer motor: verify if the software setting is correct and continue with the upgrade to 5.03.</div> <div>► If the machine is equipped with the 24V brewer motor: consider if it is worthwhile to upgrade to the 36V motor (life time of the 24V motor is approximately 40.000 coffee's); change the parameter 'brewer motor' from 24V to 36V (the motor can be exchanged either before or after the software upgrade).</div>	<div>-36V model</div> <div>-24V model</div> <div>only changeable from 24V to 36V!</div> <div>not changeable from 36V to 24V!</div>	-36V model	<div>-36 VDC model (065'006 ;standard as of production week 49/2008):</div> <div>-24 VDC model (063'322):</div>
By-Pass				
<div>by-pass water present no</div>	<div>DESCRIPTION:</div> <div>► The availability of the by-pass can be verified by the presence of the by-pass valve and the T-connection as shown in the picture.</div>	yes/no	no	<div>1. By-pass valve.</div> <div>2. T-connection to the brewer outlet.</div>

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Milk level sensor				
milk level sensor no	DESCRIPTION: ▶ The milk sensor can be found either inside the 'on the counter fridge' (capacitive) or in the under counter milk support (ultra sonic). ▶ When set to 'yes' additional parameters can be found in the 'general parameters'.	yes/no	no	REMARKS: ▶ The inside of the fridge is now made of plastic (better hygiene & cleaning convenience). With this conversion to the plastic material the sensor will be relocated. The new position will be behind the wall in the foam isolation (but accessible in case of a breakdown).
ADJUSTMENT OF THE ULTRA SONIC SENSOR (under counter milk systems)				
	GENERAL: ▶ The sensor is optional. ▶ The sensor is located in the stainless steel under counter milk box (but can be adjusted from the outside of the box). PROCEDURE: ▶ Fill the milk container until the desired 'milk empty level' (with milk or water). ▶ Use a small screw driver to turn the adjustment screw (1) until the green LED (2) lights up.			Ultra Sonic milk level sensor for under counter milk systems (optional): 
POSITION OF THE CAPACITIVE MILK SENSOR (on the counter fridge)				
	GENERAL: ▶ The sensor is optional. ▶ The sensor is located at the right hand side of the fridge and can be reached by removing the metal cover and the additional foam isolation. ▶ The sensor does not have any electronic adjustment. ▶ Mechanically the sensor can be shifted up and down (± 10 mm). Note that there is a new parameter included in the software which defines the amount of beverages which still can be taken out when a 'low level' is detected (intelligent mode, page 31). This parameter makes any mechanical adjustment unnecessary.			Capacitive milk sensor for on the counter milk systems [CS system; optional]: 
Cup sensor				
cup sensor no	DESCRIPTION: ▶ The presence of the cup sensor can be verified at the front of the machine. ▶ When set to 'yes' additional parameters can be found in the 'general parameters'.	yes/no	no	
Decaf inlet sensor				
decaf inlet sensor no	DESCRIPTION: ▶ The sensor has been introduced from production week 47 / 2008 as a standard feature of the machine. ▶ When a sensor is present a preselection button for decaffeinated / pre-ground coffee is not longer required. ▶ Picture right hand side: Decaf cover with magnet.	yes/no	no	

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Outlet change-over				
outlet change-over no	DESCRIPTION: <ul style="list-style-type: none">▶ The outlet change over can be selected at product 'mug' only (see product programming).▶ Picture top: outlet switch over in combination with a by-pass.▶ Picture bottom: Swan neck mounted on the machine.	yes/no	no	
Telemetry				
enable telemetry no	DESCRIPTION: <ul style="list-style-type: none">▶ Telemetry is a relatively new feature which is currently in the development/evaluation phase.▶ Via an internet application and an internal gsm modem the telemetry makes it possible to (for instance):<ul style="list-style-type: none">- Read out counters.- Verify the machine status (error messages).	yes/no	no	
Remote control				
enable remote ctrl no	DESCRIPTION: <ul style="list-style-type: none">▶ Future application.▶ The remote control makes it possible to control the machine via a serial connection. The remote control unit has all functionality (beverage and service buttons as well as a display) integrated.	yes/no	no	
Self Service				
self service no	DESCRIPTION: <ul style="list-style-type: none">▶ From software 5.03 a new Self Service concept is introduced.▶ The 3 service buttons are permanently disabled; when the 'stop/plus' button is pressed and held for 10 seconds the service buttons are enabled for a period of 30 minutes. To disable the service buttons: press 'double click' on the 'stop/plus' button.▶ If a card is inserted in the card reader the service buttons are enabled. As soon as the card is removed the service buttons are blocked again.▶ This new Self Service concept makes the button covers (with hole) obsolete (lower picture right hand side).	yes/no	no	<p>Service buttons of the Coffee Art:</p>  <p>Current Self Service solution:</p> 
Reset products				
reset product pool no	DESCRIPTION: <ul style="list-style-type: none">▶ Data reset.▶ All product buttons are programmed with 'no product'.	yes/no	no	


Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Master Reset				
Master Reset no	DESCRIPTION: ▶ Master reset / Config reset. ▶ Machine programming reverts to the factory defaults. Note that these defaults are general and do not necessarily apply to the configuration of your machine. Most likely the system parameters need to be updated afterwards (either manual or by means of the save-data card). Product programming is lost as well! ▶ Note that ALL COUNTERS WILL BE LOST!	yes/no	no	
Clear Error Log				
clear error log no	DESCRIPTION: ▶ All entries in the error log will be erased permanently.	yes/no	no	




SPECIAL SOFTWARE FUNCTIONS


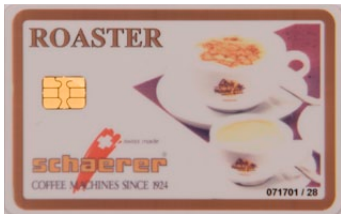
Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Clear Flag				
'CLEAR FLAG' (INTERRUPTION OF THE CLEANING PROCESS)	PROCEDURE: ► In case the cleaning process requires interruption: - Software < 4.30: Press the 'on' button for 3 seconds / let it go / press the 'on' button for 3 seconds again. - Software >= 4.30: Press the 'on' button for more then 1.5 seconds (so called 'long' click). - Press the cleaning button for 4 seconds (and let it go). - Switch the machine 'on'.			IMPORTANT: ► Do not cancel the cleaning process when cleaning agent is already in the system (tablet / milk cleaning agent).
Info screen				
TEMPERATURE DISPLAY (INFO SCREEN)	PROCEDURE:  ► Press & hold the '+' / 'stop' button for 5 seconds. ► To leave the temperature display: press the '+' button.			
<div>C 96.2 T276.7 S133.7 B 111.0 Out: c b t T s S</div>	DESCRIPTION: ► The actual boiler temperatures are shown: - C: coffee boiler (note that there is an over temperature in the background which might result in a much higher actual temperature compared to the set temperature). - T: hot water boiler (in this sample not available; showing an unrealistically high temperature). - S: steam boiler. - B: booster. ► The status of the heating relays is shown ('Out') - c: coffee relay 'on'. - b: booster relay 'on'. - t: hot water relay 'on'. - T: hot water relay 2 'on'. - s: steam relay 'on'. - S: steam relay 2 'on'.			
'Terminate'				
TERMINATE (EMERGENCY STOP)	DESCRIPTION: ► To stop any ongoing process (for instance when the software is 'hanging'). PROCEDURE: ► Software < 4.30: Press the 'on' button for 3 seconds / let it go / press the 'on' button for 3 seconds again. ► Software >= 4.30: Press the 'on' button for more then 1.5 seconds (so called 'long' click).			
'Quick menu'				
QUICK MENU (LIMITED MENU ACCESS WITHOUT SERVICE CARD)	PROCEDURE: ► Switch the machine to stand-by. ► Press any product button for 4 seconds. ► Press the '+' button to access the subsequent menu's. ► When no action is taken the machine will revert to 'stand by' after ±6 seconds.			
<div>coffee art 5.03</div>	DESCRIPTION: ► Software level of the machine (read only).			► Press the '+' button to access the next menu.
<div>mach yy.ww.xxx'xxx install x</div>	DESCRIPTION: ► Machine & Installation (customer) number. ► Machine number should be in accordance with machine number which is stated on the serial plate.			► Press the '+' button to access the next menu.


Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
brew time / product	PROCEDURE: <ul style="list-style-type: none"> ► Press 'on' to select this function. ► Press a product button. DESCRIPTION: <ul style="list-style-type: none"> ► The extraction time can be viewed (pure extraction time only without pre-infuse). Condition: the product must have been dispensed previously. ► In addition the product counter for the button is shown (note that the counter can't be cleared in this menu). 			► Press the '+' button to access the next menu.
view brew time cont < no >	DESCRIPTION: <ul style="list-style-type: none"> ► To display the brewing time (excluding the pre-infuse time). ► The brew time will be shown for another 3 seconds when the product has been completely dispensed. 	yes/no	no	► Press the '+' button to access the next menu.
error statistics xx	PROCEDURE: <ul style="list-style-type: none"> ► Press 'on' to select this function. ► By pressing the '-' or the '+' button the errors can be viewed. DESCRIPTION: <ul style="list-style-type: none"> ► xx is the number of entry's in the error register (max 30 on First in-First out principle). 			► Press the '+' button to access the next menu.
cleaning statistics xx	PROCEDURE: <ul style="list-style-type: none"> ► Press 'on' to select this function. ► By pressing the '-' or the '+' button the cleaning actions can be viewed. DESCRIPTION: <ul style="list-style-type: none"> ► xx is the number of entry's in the cleaning statistics register (max 30 on First in-First out principle). ► Note that only completed cleaning's are shown (cleaning's which are stopped / terminated are not shown). 			► Press the '+' button to access the next menu.
adjust clock 11:27	PROCEDURE: <ul style="list-style-type: none"> ► Press 'on' to change the time. 			► Press the '+' button to access the next menu.
adjust date 23.01.2010	PROCEDURE: <ul style="list-style-type: none"> ► Press 'on' to change the date. 			► Press the '+' button to access the next menu.

ADDITIONAL CHIP CARDS

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
PROGRAM Card				
GENERAL DESCRIPTION / INFORMATION: <ul style="list-style-type: none">▶ The program card is used to configure (set up) a payment system. The payment system MUST be enabled with the service card first (menu: payment systems). Refer to the overview of the main menu's of the PROGRAM card below.▶ Article number: 063'941.▶ Chip: SLE 28.▶ Purpose: payment system control / set up.▶ Customer number: checked.▶ Machine number: not checked.▶ The card can be configured (menu's can be enabled / disabled with the service card - menu chip card service - configure PROGRAM).▶ PIN code: no.		-	-	IMPORTANT REMARK: <ul style="list-style-type: none">▶ The PROGRAM card is only functional when a payment system is enabled (with the SERVICE card). If no payment system is enabled the message: 'no menu item enabled' will be shown on the display. 
product prices	DESCRIPTION: <ul style="list-style-type: none">▶ Set price(s).▶ Set token price(s).▶ Set article numbers.	-	-	-
MONEY load amount	DESCRIPTION: <ul style="list-style-type: none">▶ Only visible when the MONEY system is enabled in the 'payment systems' menu (SERVICE Card).▶ To load money onto a MONEY card.	-	-	-
erase MONEY card	DESCRIPTION: <ul style="list-style-type: none">▶ Only visible when the MONEY system is enabled in the 'payment systems' menu (SERVICE Card).▶ To erase the credit from a MONEY card.	-	-	-
show turnover data	DESCRIPTION: <ul style="list-style-type: none">▶ Money (total / erasable).▶ Tokens (total / erasable).▶ CCI (total / erasable)▶ MONEY from Schaerer MONEY system (total / erasable).▶ MASTER (total / erasable).	-	-	-
disable acc system	DESCRIPTION: <ul style="list-style-type: none">▶ Switch the accounting system off or on.	-	-	-
register MASTER card	DESCRIPTION: <ul style="list-style-type: none">▶ Will only be shown when the setting for menu: SERVICE card - 'payment systems' - 'MONEY-card' - 'free vend' = yes (the same menu point can be found under: SERVICE card: 'payment systems' - 'accounting system' - 'free vend' = yes).▶ To release MASTER cards which can be used for free vends.	-	-	-
erase MASTER table	DESCRIPTION: <ul style="list-style-type: none">▶ Will only be shown when the setting for menu: SERVICE card - 'payment systems' - 'MONEY-card' - 'free vend' = yes (the same menu point can be found under: SERVICE card: 'payment systems' - 'accounting system' - 'free vend' = yes).▶ All previously registered MASTER cards will be erased.	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
MONEY-A Card				
GENERAL DESCRIPTION / INFORMATION: <ul style="list-style-type: none">▶ The MONEY card is a debit card. Money can be loaded onto the card with the PROGRAM card (menu: MONEY load amount) or alternatively by means of a chip card reader connected to a PC with a special software program.▶ It is possible to combine the MONEY system with another payment system such as a coin tester. In this case it is possible to load the card through the coin tester.▶ Depending on the setting for 'price-factor A' (SERVICE card menu payment systems - MONEY-card) a discount can be given to the user of MONEY A cards. The discount can be as high as 100%. The discount does not apply to users of the coin system.▶ Note that prices must be entered (with the PROGRAM card) before the MONEY system can be used.▶ Article number: 063'921 (SLE 28).▶ Chip: SLE 18 when released / SLE 28 standard.▶ Purpose: debit card for the Schaeerer Money system.▶ Customer number: checked.▶ Machine number: not checked.▶ PIN code: no.		-	-	
<div>insert MONEY card 08:55 01.10.2008</div>	DESCRIPTION: <ul style="list-style-type: none">▶ MONEY system is enabled.	-	-	-
<div>credit: 18.75 08:55 01.03.2010</div>	DESCRIPTION: <ul style="list-style-type: none">▶ When the MONEY card is inserted, the current credit is displayed.▶ If the credit is sufficient a product can be selected.▶ Depending on the setting in the menu: SERVICE CARD - payment system - MONEY system - remove card (yes / no) the product dispensing will only start after removal of the MONEY card!	-	-	-
MONEY-B Card				
GENERAL DESCRIPTION / INFORMATION: <ul style="list-style-type: none">▶ See previous page under MONEY-A card.▶ Article number: 063'978 (SLE 28).▶ Chip: SLE 18 when released / SLE 28 standard.▶ Purpose: debit card for the Schaeerer Money system.▶ Customer number: checked.▶ Machine number: not checked.▶ PIN code: no.		-	-	
MASTER Card				
GENERAL DESCRIPTION / INFORMATION: <ul style="list-style-type: none">▶ The MASTER card temporarily disables the accounting system in order to make free vends.▶ Each MASTER card must be released (per machine) by means of the PROGRAM card (see description under PROGRAM card). A maximum of 20 different cards is supported per machine.▶ The free vends made with the MASTER card are counted separately.▶ Article number: 063'934.▶ Chip: SLE 28.▶ Purpose: free of charge card (disables any payment system as long as inserted).▶ Customer number: checked.▶ Machine number: checked.▶ PIN code: no.		-	-	

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
CUP Card				
GENERAL DESCRIPTION / INFORMATION: <ul style="list-style-type: none">▶ The CUP card is intended to read out turnover data.▶ The card is READ ONLY hence no counters can be erased.▶ Since the card does not check machine number and customer number it can be used on any machine.▶ Article number: 063'939▶ Chip: SLE 28▶ Purpose: read out counters (read only).▶ Customer number: not checked.▶ Machine number: not checked.▶ PIN code: no.		-	-	REMARK: <ul style="list-style-type: none">▶ Refer to page 39 for a detailed overview of the counter menu. <div></div>
ROASTER Card				
GENERAL DESCRIPTION / INFORMATION: <ul style="list-style-type: none">▶ The ROASTER card can be used when the machine is owned by the roaster.▶ A representative of the roaster is able to read out counter and can make certain (limited) changes in the recipe's.▶ Since the card does not check on machine number or customer number the card may be used for a number of machines and even different machine models.▶ The ROASTER card is used to<ul style="list-style-type: none">- read out all counters (daily / machine / service)- erase daily counters- make (limited) changes in the product programming.- change brew water temperature (± 2 °C).▶ Main differences between the CHEF and ROASTER card:<ul style="list-style-type: none">- the ROASTER card does not check on the customer number which is stored in the machine.- the CHEF card can be configured.▶ Article number: 071'701▶ Chip: SLE 28▶ Purpose: read out counters - limited change of recipe's / limited change of coffee water temperature.▶ Customer number: not checked.▶ Machine number: not checked.▶ PIN code: no.		-	-	REMARK: <ul style="list-style-type: none">▶ Refer to page 39 for a detailed overview of the counter menu. <div></div>
<div>product buttons</div>	DESCRIPTION: <ul style="list-style-type: none">▶ Existing products can be edited.▶ Powder amounts, water quantities, foam amounts, milk amounts etc can be changed.▶ It is NOT possible to allocate new products.	-	-	
<div>temperature format Celsius / Fahrenheit</div>	DESCRIPTION: <ul style="list-style-type: none">▶ Self explanatory.	-	-	
<div>temp. brew water 90°C</div>	DESCRIPTION: <ul style="list-style-type: none">▶ Temperature can be changed within the range of ± 2 °C.	-	-	
<div>read out counters</div>	DESCRIPTION: <ul style="list-style-type: none">▶ Money (total / erasable).▶ Tokens (total / erasable).▶ CCI (total / erasable)▶ MONEY from Schaerer MONEY system (total / erasable).▶ MASTER (total / erasable).	-	-	<ul style="list-style-type: none">▶ Refer to page 39 for a detailed overview of the counter menu.

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
CHEF Card				
GENERAL DESCRIPTION / INFORMATION: <ul style="list-style-type: none">► The CHEF card is used to<ul style="list-style-type: none">- read out all counters (daily / machine / service).- erase daily counters.- make (limited) changes in the product programming.► Article number: 063'930.► Chip: SLE 28.► Purpose: read out counters (read / write) - limited change of recipe's - timer operation - change language► Customer number: checked.► Machine number: not checked.► The card can be configured (menu's can be enabled / disabled with the service card - menu chip card service - configure CHEF).► PIN code: no.		-	-	
read out counters	DESCRIPTION: <ul style="list-style-type: none">► See counter menu on page 39 for detailed information.► All counters are visible (including 'service counters' - which are read-only with the CHEF card).	-	-	
product buttons	DESCRIPTION: <ul style="list-style-type: none">► Existing products can be edited.► Powder amounts, water quantities, foam amounts, milk amounts etc can be changed.► It is NOT possible to allocate new products.	-	-	
system settings	machine number x0.00.0xx'xxx <ul style="list-style-type: none">► Read only.			
	customer number xx <ul style="list-style-type: none">► Read only.			
	language <ul style="list-style-type: none">► Can be set to English, German, French, Dutch, Polish, Spanish, Danish and Japanese (status Jan 2010).► Can be set to Chinese (traditional) with special hardware installed.			
	24h time format yes <ul style="list-style-type: none">► Self explanatory.	-	-	
	adjust clock xx:xx <ul style="list-style-type: none">► Self explanatory.			
	adjust date x0.00.0xxx <ul style="list-style-type: none">► Self explanatory.			
daylight-saving time no <ul style="list-style-type: none">► Options are:<ul style="list-style-type: none">- no- Europa (EU)- North America				
timer operation	DESCRIPTION: <ul style="list-style-type: none">► See the description timer operation (page 35).	-	-	► Refer to page 39 for a detailed overview of the counter menu.

ERROR OVERVIEW

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Card reader				
<div>*read error</div>	DESCRIPTION / EXPLANATION:: ▶ A read attempt to a card has failed. Possibly the chip is damaged. SOLUTION: ▶ Try another card.	-	-	-
<div>*card rejected</div>	DESCRIPTION / EXPLANATION:: ▶ A card containing: - A different machine number (then stored in the machine) was entered (e.g. SAVE DATA card). - A different customer number (then stored in the machine) was entered (e.g. CHEF card). SOLUTIONS: ▶ Use the cards which are delivered with the machine (and therefore contain the correct machine / customer number). ▶ Erase the cards with the aid of the CHIP card service menu. After this process the cards can be used.	-	-	-
<div>*wrong card</div>	DESCRIPTION / EXPLANATION:: ▶ Another card then expected was entered. SOLUTION: ▶ Example: when the SERVICE card is removed at the end of programming the machine will prompt for the SAVE DATA card. If at that moment any other card then the SAVE DATA is entered the error '*wrong card' will be displayed.	-	-	-
<div>*write error</div>	DESCRIPTION / EXPLANATION:: ▶ A write attempt to a card has failed. Possibly the chip is damaged. SOLUTION: ▶ Try another card.	-	-	-
<div>*not supported</div>	DESCRIPTION / EXPLANATION:: ▶ The card which has been entered is not recognized by the machine. SOLUTIONS: ▶ Note that for now (status 05/2009) the following cards are supported: - SERVICE (chip 18 & 28). - SAVE DATA PLUS. - CHEF. - PROGRAM. - MONEY A & B (chip 18 & 28). - MASTER. - ROASTER. ▶ Try another card. ▶ The card reader might be defective. Replace and try again.	-	-	-
<div>no menu item enabled</div>	DESCRIPTION / EXPLANATION:: ▶ A PROGRAM card was entered. However no accounting system is released. Therefore there is no function for the card. SOLUTION: ▶ Release an accounting system prior to using the PROGRAM card.	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
registration error	DESCRIPTION / EXPLANATION:: ► An attempt is made to register a MASTER card. The attempt failed: - Card defective - Master table full (maximum 20 cards can be registered on one machine).			-
Water / Boilers				
water flow error	DESCRIPTION / EXPLANATION:: ► During coffee product dispensing the flow meter is making less then the minimum defined amount of rotations. A blockage or partial blockage somewhere in the entire water system is likely (from the main water supply until the coffee outlet). SOLUTIONS: ► Check if there is (adequate) water supply to the machine (main water valve open?) ► Often a water flow problem finds its cause in a blocked upper piston. ► No pump pressure / pump pressure too low. Use the 'adjust pump pressure' routine from the menu 'test / calibration' to verify. ► Brew valve defective / no electrical supply to the brew valve. ► Grind extremely fine causing the brew water to flow too slow (or not at all). ► Lime scale in the system (coffee water boiler supply pipe). ► Flow meter defective (wiring between flow meter & main board).	-	-	► -
heating hot water	DESCRIPTION / EXPLANATION:: ► The actual temperature in the hot water boiler is more then 8°C under the set temperature. Dispensing of hot water is possible unless 'wait for HW temp' in general parameters is released. SOLUTIONS: ► The boiler element is switched 'on'. The message should disappear after a short while. ► The machine has been switched 'off' for a prolonged period. Depending on the electrical supply and boiler capacity (2, 3 or 6kW) it might take a few minutes to heat up. ► This message is also shown when a Klixon has tripped (due to over heating).	-	-	► -
heating coffee water	DESCRIPTION / EXPLANATION:: ► The actual temperature in the hot water boiler is more then 8°C under the set temperature. Dispensing of coffee products is blocked. SOLUTION: ► The boiler element is switched 'on'. The message should disappear after a short while. ► The machine has been switched 'off' for a prolonged period. Depending on the electrical supply and boiler capacity (2 or 3kW) it might take a few minutes to heat up. ► This message is also shown when a Klixon has tripped (due to over heating).	-	-	-
heating steam	DESCRIPTION / EXPLANATION:: ► The actual temperature in the steam boiler is more then 7°C under the set temperature. Dispensing of steam and steam related products is blocked. SOLUTION: ► The boiler element is switched 'on'. The message should disappear after a short while. ► The machine has been switched 'off' for a prolonged period. Depending on the electrical supply and boiler capacity (2, 3 or 6kW) it might take a few minutes to heat up. ► This message is also shown when a Klixon has tripped (due to over heating).	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
timeout steam supply	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ▶ A low level in the steam boiler is detected by the level sensor. An attempt was made to fill the boiler however no water has been detected by the level probe within 60 seconds. The filling process is cancelled and the error is displayed. Dispensing of products that require steam is blocked. SOLUTIONS: <ul style="list-style-type: none"> ▶ Check the water supply to the steam boiler: <ul style="list-style-type: none"> - Restrictor after the steam supply valve (067'185 / Ø 0.6mm). - Water supply pipe in the steam boiler (lime scale). - Steam supply valve. ▶ Check the level probe (lime scale) and the electrical connection to the probe (bad contact). ▶ Check if the machine has a proper earth connection. 	-	-	-
sensor booster def.	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ▶ No resistance is recognized by the main board. Coffee product dispensing is possible. SOLUTIONS: <ul style="list-style-type: none"> ▶ Check the electrical connections between booster and main board. ▶ Resistance of the NTC sensor: <ul style="list-style-type: none"> - 25°C: 10k ohm. - 70°C: 1727 ohm. - 100°C: 678 ohm. ▶ Replace the booster (the sensor itself is not a serviceable part). 	-	-	-
HW sensor def. coffee sensor def. steam sensor def. sensor steamwand def.	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ▶ No resistance is recognized by the main board. Product dispensing is blocked. SOLUTIONS: <ul style="list-style-type: none"> ▶ Check the electrical connections between sensor and main board. ▶ Measure the resistance of the NTC sensor: <ul style="list-style-type: none"> - 25°C: 10k ohm. - 90°C: 910 ohm. - 100°C: 678 ohm. ▶ Replace the sensor when the resistance is out of specifications. 	-	-	-
timeout coffee heater HW heater timeout steam heater timeout	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ▶ Although the heater was switched on the set temperature has not been reached within 5 minutes. SOLUTIONS: <ul style="list-style-type: none"> ▶ Klixon has tripped due to overheating. ▶ Board defect (relay / thyristor). ▶ Wiring problem (poor contact). ▶ Heater defective. ▶ In case of a 3 phase connection: verify whether all phases are present. 	-	-	-
over temp hot water	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ▶ A boiler temperature of 110°C or more is detected. If the situation persists eventually one of the Klixons will trip. SOLUTION: <ul style="list-style-type: none"> ▶ Most likely problems are: <ul style="list-style-type: none"> - Main board defective (069'468). - Heater control defective (069'069). - Temperature sensor (NTC) defective. 	-	-	-
over temp steam	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ▶ A boiler temperature of 145°C or more is detected. SOLUTION: <ul style="list-style-type: none"> ▶ Most likely problems are: <ul style="list-style-type: none"> - Main board defective (069'468). - Heater control defective (069'069). - Temperature sensor (NTC) defective. 	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
Brewer				
brew unit time out	DESCRIPTION / EXPLANATION: ▶ There is no 'home position' switch for the brew unit. The position of the brew cylinder is recognized by current detection. The following peak points are recognized: - Upper position. - Lower position. ▶ The following time out is defined: - If no current peak is detected within 10 seconds of brewer movement the 'brew unit time out' is shown. SOLUTIONS: ▶ Wiring between board and motor (poor contact). ▶ Motor defective (gear of electrically defective). ▶ Main board (motor driver) defective.	-	-	-
brew motor current	DESCRIPTION / EXPLANATION: ▶ A current in excess of 600mA is detected although no brewer movement is initiated. SOLUTIONS: ▶ Main board defective. ▶ Measure if there is a short circuit in the motor including the wiring to the motor (remove the plug from the main board and measure from there). If there is a short circuit check whether this comes from the wiring or the motor.	-	-	-
over current brew motor	DESCRIPTION / EXPLANATION: ▶ A brewer motor current in excess of 4A is detected. SOLUTIONS: ▶ Wiring between board and motor (poor contact). ▶ Motor defective. ▶ Main board defective.	-	-	-
Grinder				
grinder current	DESCRIPTION / EXPLANATION: ▶ A current in excess of 600mA is detected although no grinder motor movement is initiated. SOLUTIONS: ▶ Main board defective. ▶ Measure if there is a short circuit in the motor including the wiring to the motor (remove the plug from the main board and measure from there). If there is a short circuit check whether this comes from the wiring or the motor.	-	-	-
grinder L overload	DESCRIPTION / EXPLANATION: ▶ A current in excess of: - ± 6A is detected for more then 800ms. - ± 8A is detected for more then 200ms. SOLUTIONS: ▶ A 'grinder overload' message can be cancelled 3 times ('+'-button) after which 'grinder blocked' is shown. This 'grinder blocked' will remain for 10 minutes during which the grinder can't be used (The 10 minutes waiting time can be interrupted/cancelled by switching the machine off/on). ▶ Check for blockages and remove the foreign object. ▶ Check whether the grinding discs are still in a good condition.	-	-	-
grinder L overload				
grinder L blocked	DESCRIPTION / EXPLANATION: ▶ A 'grinder blocked' is a result of cancelling a 'grinder overload' message 3 times. See 'grinder overload' description above for more information. SOLUTION: ▶ The message will be shown for 10 minutes during which the grinder can't be used (The 10 minutes waiting time can be interrupted/cancelled by switching the machine off/on). ▶ Check for blockages and remove the foreign object. ▶ Check whether the grinding discs are still in a good condition.	-	-	-
grinder R blocked				

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
MISCELLANEOUS				
CCI/CSI-comms error	DESCRIPTION / EXPLANATION: ► Indicates a communication error between machine and accounting system. SOLUTIONS: ► Bad electrical connection. ► No power supply to the accounting system. ► Malfunctioning accounting system.	-	-	-
machine drained	DESCRIPTION / EXPLANATION: ► The drainage process (see description under the menu 'test / calibration') is finished. The machine can now be switched 'off'. The boilers must be drained manually. The next time the machine is switched 'on' the 'fill-up' process is started automatically.	-	-	-
Operator Instructions				
empty gr. container	DESCRIPTION / EXPLANATION: ► The waste container is almost full. Another 5 products can be dispensed until the machine blocks. SOLUTION: ► Empty the container. ► The container must be removed for at least 4 seconds until the message is cleared.	-	-	-
grounds cont missing	DESCRIPTION / EXPLANATION: ► The waste container is not in place. SOLUTION: ► Replace the container. ► If the situation persists after replacing the container: the container detection is made by means of a magnet (on the container; behind, right side) in combination with a magnetic sensor (located just behind the water pump). A missing magnet or faulty sensor might be the cause.	-	-	-
front panel missing	DESCRIPTION / EXPLANATION: ► The front panel is not in place. ► This message is not used when the machine has old wiring' (All Coffee Art standard machines produced before week 24/2007). SOLUTION: ► Place the front panel (make sure it is not upside down). ► Verify if the magnet is still present.	-	-	-
clean machine start cleaning	DESCRIPTION / EXPLANATION: ► A cleaning request (message only / mandatory) has been set in the 'time / date' menu. The set time equals the actual time and therefore the message is shown. ► When set to 'message only': It is possible to dispense products. ► When set to 'message with ack.': It is possible to dispense products however the message will be shown every minute until the cleaning is executed (clear the message with the '+' button'). ► When set to 'mandatory': It is possible to dispense products for 1 hour after the set time until the machine starts the cleaning process automatically (the display shows 'start cleaning'). The cleaning message will be shown every minute until the cleaning is executed (clear message with the '+' button'). SOLUTION: ► Execute the cleaning.	-	-	-
wait to clean	DESCRIPTION / EXPLANATION: ► The machine must be cleaned however the coffee boiler is below the set temperature and requires to heat up first. SOLUTION: ► Wait until the machine has been heated up then start the cleaning.	-	-	-

Display	Description / Recommendation	Adjustment		Remarks / Pictures
		Range	Default	
<div>right grinder empty</div> <div>left grinder empty</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► The grinder current has fallen below the level which has been set under 'right grinder empty 0.0x A' (menu: test / calibration). Therefore the machine assumes that there are no beans left in the container. SOLUTION: <ul style="list-style-type: none"> ► Fill the container. ► If the message is (often) shown while there are still beans in the container: possibly the set current is not in line with the real empty current of the grinder. Lower the amperage to, for instance, from 2.05 to 1.5A and try again. 			-
<div>filter exchange</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► The 'filter exchange' message has been set in the 'time / date' menu. The actual amount of litres (or the actual amount of months) has exceeded the set amount. SOLUTION: <ul style="list-style-type: none"> ► Change the filter and reset the message in the 'service counter' menu (service card is required). 			-
<div>service request</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► The 'service request' message has been set in the 'time / date' menu. The actual amount of coffee's dispensed (or the actual amount of months) has exceeded the set amount. SOLUTION: <ul style="list-style-type: none"> ► Execute the preventive maintenance and reset the message in the 'service counter' menu (service card is required). 			-
<div>water tank empty</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► The external fresh water tank has been enabled in the 'general parameters'. The level sensor has detected a low level. SOLUTION: <ul style="list-style-type: none"> ► Fill the tank. 			-
<div>waste water tank full</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► The external waste water tank has been enabled in the 'general parameters'. The level sensor has detected a high level. SOLUTION: <ul style="list-style-type: none"> ► Empty the tank. 			-
<div>insert ground coffee</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► The pre-selection button for ground coffee was pressed prior of making a coffee selection ► The machine is equipped with a sensor in the decaf inlet. As soon as the decaf inlet is opened the message will be shown. SOLUTION: <ul style="list-style-type: none"> ► Insert ground coffee and press the '+' button (indicated by a red flashing LED). 			-
<div>product button error</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► A product button is blocked / stuck / jammed. ► Message is given out after 120 seconds. 			-
<div>service button error</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► A service button is blocked / stuck / jammed. ► Message is given out after 120 seconds. 			-
<div>milk not available</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► Message for 'Centre Milk system' ► Setting for 2nd clean/1st active (general parameters) = yes. ► The other (2nd) machine is in the cleaning process therefore the dispensing of milk products on this machine (1st) is blocked. 			-
<div>caution !!!</div>	DESCRIPTION / EXPLANATION: <ul style="list-style-type: none"> ► The machine will rinse shortly (milk system rinsing / brewer rinsing). The warning 'caution !!!' + several beeps are generated to warn the user / operator. 	-	-	-