

# Training manual Fundamentals

SCC Line

SelfCooking Center - Combi Master



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### General hints:



Isolate the appliance from mains supply before opening the appliance



When working with chemicals, i.e. aggressive cleaning materials always wear protective clothing, goggles and gloves!



After maintenance / repair the appliance must be checked for electric safety in accordance with your national, state and local requirements!



Whenever working on any gas component like:  
Gas valve, gas blower and / or changing connected type of gas a detailed  
flue gas analysis **MUST** be done using adequate CO and CO<sub>2</sub>  
measuring equipment! This shall **ONLY** be done by trained technicians!  
Always check appliance for possible gas leakages!

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# Company history

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## Milestone of an extraordinary company history

- 1973 Foundation of RATIONAL GmbH as a company for producing and selling of hot air ovens in Germany
- 1976 Invention of the RATIONAL Combi-Steamer
- 1993 Opening of plant number 2
- 1993 Invention of the RATIONAL Clima Combi®
- 1997 Invention of the RATIONAL ClimaPlus Combi®
- 2000 Going public RATIONAL AG
- 2000 CleanJet® – World wide the first full automatic self clean system
- 2004 Invention of the first SelfCooking Center® of the world
- 2005 Invention of the first VarioCooking Center® of the world by our daughter company FRIMA. Cooking, roasting, frying, simply better, in one appliance, with double speed.
- 2008 Opening of the third and biggest plant in Landsberg
- 2008 CleanJet<sup>+Care</sup>® – cleaning intelligence for a maximum reliability

The following daughter companies were founded:

UK, France, Japan, USA, Italy, Scandinavia, Switzerland, Canada, Spain,  
RATIONAL Großküchentechnik in Germany, Russia, Austria, Poland, China, Greece,  
Middle East and Ukraine

## History of the Combi Steamer

<b>Product line:</b>	<b>Designation:</b>	<b>Serial number</b>	<b>Produced as of</b>	<b>Produced up to</b>
Classic Line	CD	7609D 1234	1976	05-1997
	CM	11M8610 1234	1986	11-1989
	CM	11M8904 1234	04-1989	04-1991
	CC	11C9103 1234	03-1991	05-1997
	CM	11M9104 1234	04-1991	05-1997
	CM Gas (101)	14G9104 1234	04-1991	10-1997
	CM Gas (201)	21G9301 1234	01-1993	10-1997
	CM Gas (62)	62G9403 1234	03-1994	10-1997
<b>C-Line</b>				
C-Line 61, 101	CCD – CCM – CCC	CCM, CCC: humidity control	10-1993	05-1995
C-Line 201, 202	CCD – CCM – CCC		10-1993	05-1997
C-Line 61, 101	CCD – CCM – CCC		05-1995	05-1997
C-Line 102	CCD – CCM – CCC		10-1995	05-1997
<b>CPC Line :</b>				
ClimaPlus Combi®	CD – CM – CPC	CPC: ClimaPlus control	05-1997	02-1999
	CM Gas, CPC Gas		10-1997	02-1999
	CPC	New humidity control	02-1999	03-2004
	IQT Sensor	E11CB99101234567	03-2003	
	CPC	CleanJet®, CDS®	03-2000	03-2004
	CM Gas, CPC Gas	Electronic motor control, 230V burner control	01-2001	03-2004
	CM, CPC Electric	Electronic motor control	03-2001	03-2004
	CD – CM – CPC	Elimination of motor protector	12-2001	03-2004
<b>SCC Line</b>				
SelfCooking Center®	CM Electric / Gas	E11ME0402345678	04-2004	01-2006
	CM Electric / Gas	New CPU pcb	02-2006	09-2008
	CM Electric / Gas	Extension of warranty	10-2008	
	SCC Electric / Gas	E11SE0402345678	04-2004	09-2008
	SCC Electric / Gas	CareControl / Extension of warranty	10-2008	

## Structure of serial number

**SCC Line:**  
from 04.2004

**E 61 S E 04 07 2345678**

Energy	Unit size	Model	Version	Year	Month	Serial number
E - Electric G - Gas	61 - 6x1/1GN 62 - 6x2/1GN 11 - 10x1/1GN 12 - 10x2/1GN 21 - 20x1/1GN 22 - 20x2/1GN	S - SCC M - CM	E: initial unit F: only CM, new pcb G: SCC + CM SCC Care Control	04 - 2004	07 - July	7-digit number

**CPC Line:**  
from 06.1997  
until 04.2004

**E 61 C B 03 07 123456**

Energy	Unit size	Model	Version	Year	Month	Serial number
E - Electric G - Gas	61 - 6x1/1GN 62 - 6x2/1GN 11 - 10x1/1GN 12 - 10x2/1GN 21 - 20x1/1GN 22 - 20x2/1GN	C - CPC M - CM D - CD	A: initial unit B: new humidity C: CleanJet, CDS D: Motor control	03 - 2003	07 - Juli	4-digit number until 12.1998 7-digit number from 01.1999

**C Line:**  
from 10.1993  
until 05.1997

**C 61 C 95 05 1234**

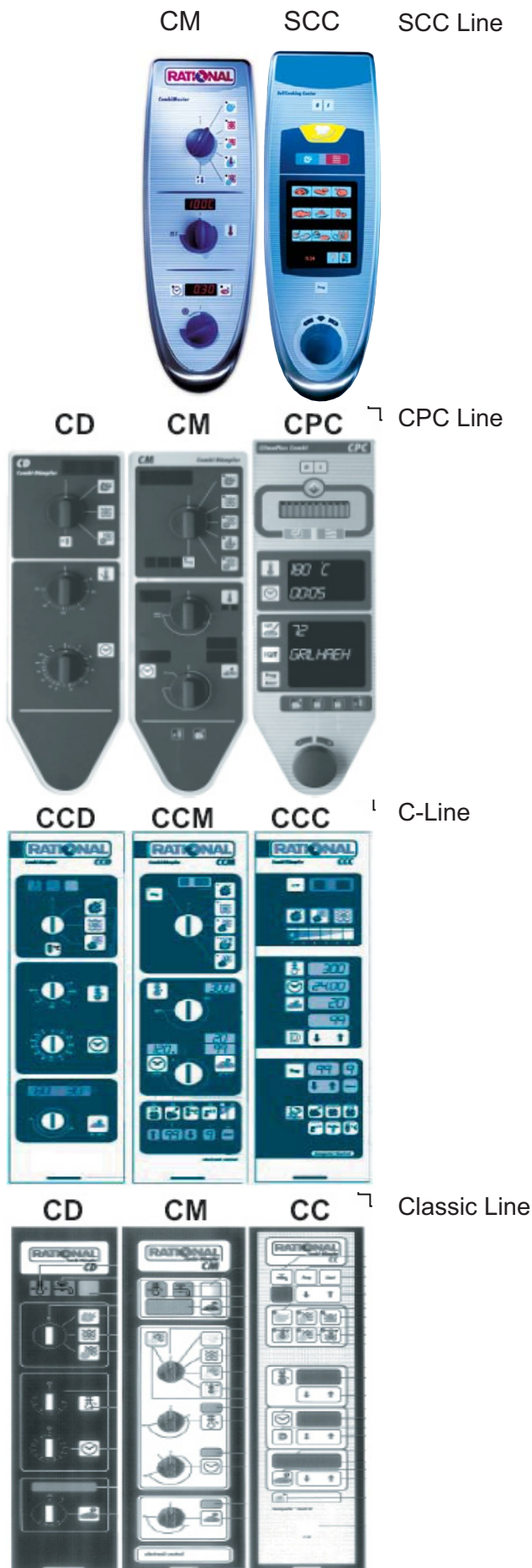
C-Line	Unit size	Model	Year	Month	Serial number
	61 - 6x1/1GN 11 - 10x1/1GN 12 - 10x2/1GN 21 - 20x1/1GN 22 - 20x2/1GN	C - CCC M - CCM D - CCD	95 - 1995	05 - Mai	4-digit number

**Classic Line:**  
from 1986  
until 05.1997

**06 M 94 07 1234**

CD	Unit size	Model	Year	Month	Serial number
00694071234 10194071234 20194071234 02094071234	06 - 6x1/1GN 11 - 10x1/1GN 21 - 20x1/1GN 22 - 20x2/1GN	C - CC M - CM	94 - 1994	07 - Juli	4-digit number
14G94071234 21G94071234		CM 101Gas CM 201Gas			

## Control panel Layout



## Unit sizes and accessories

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SelfCooking Center®  
6 x 1/1 GN

Thermo Cabinet



SelfCooking Center®  
6 x 2/1 GN

Base



SelfCooking Center®  
6 x 1/1 GN  
on  
10 x 1/1GN  
as Combi Duo



SelfCooking Center®  
6 x 2/1 GN  
on  
10 x 2/1GN  
as Combi Duo



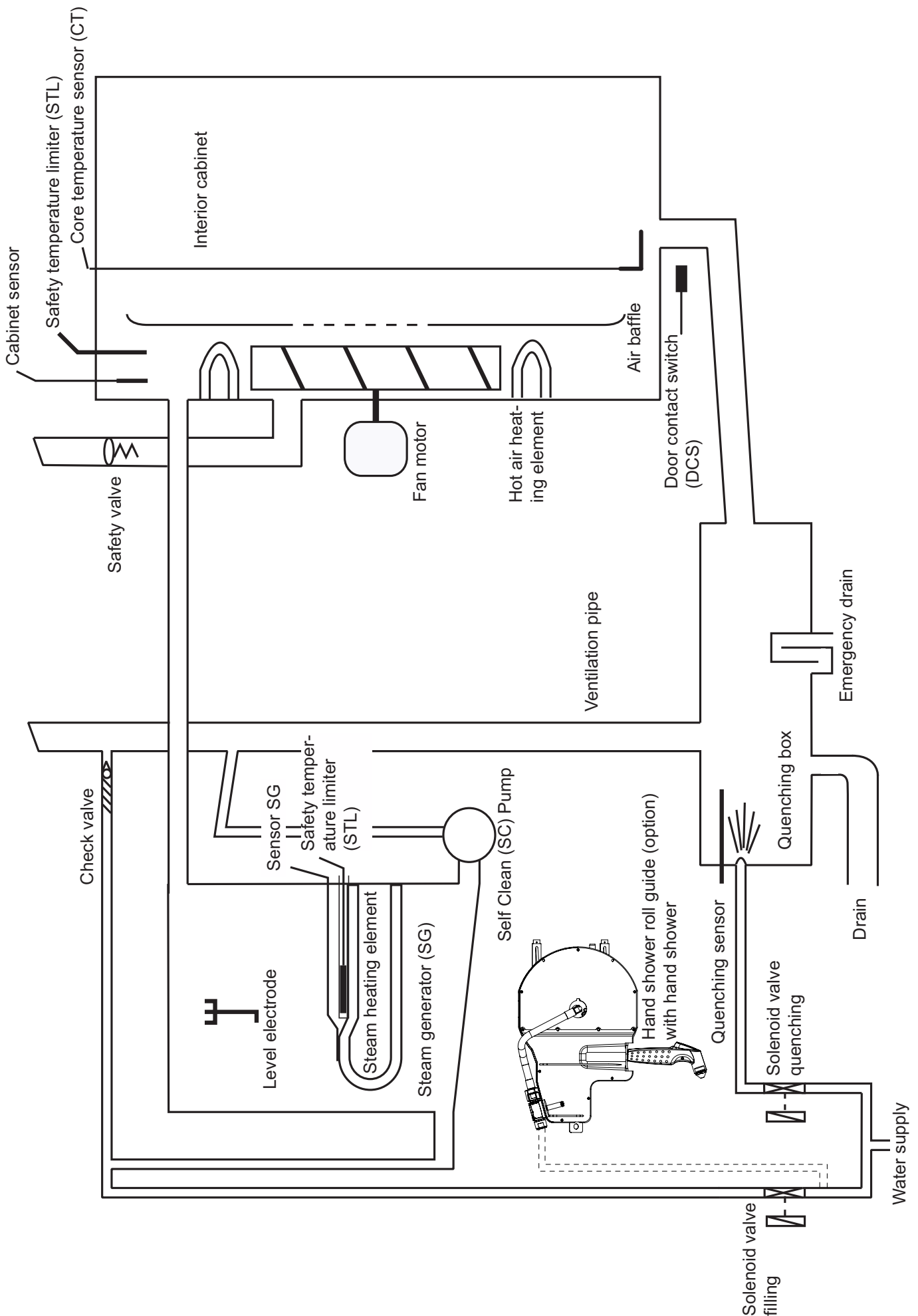
SelfCooking Center®  
20 x 1/1 GN



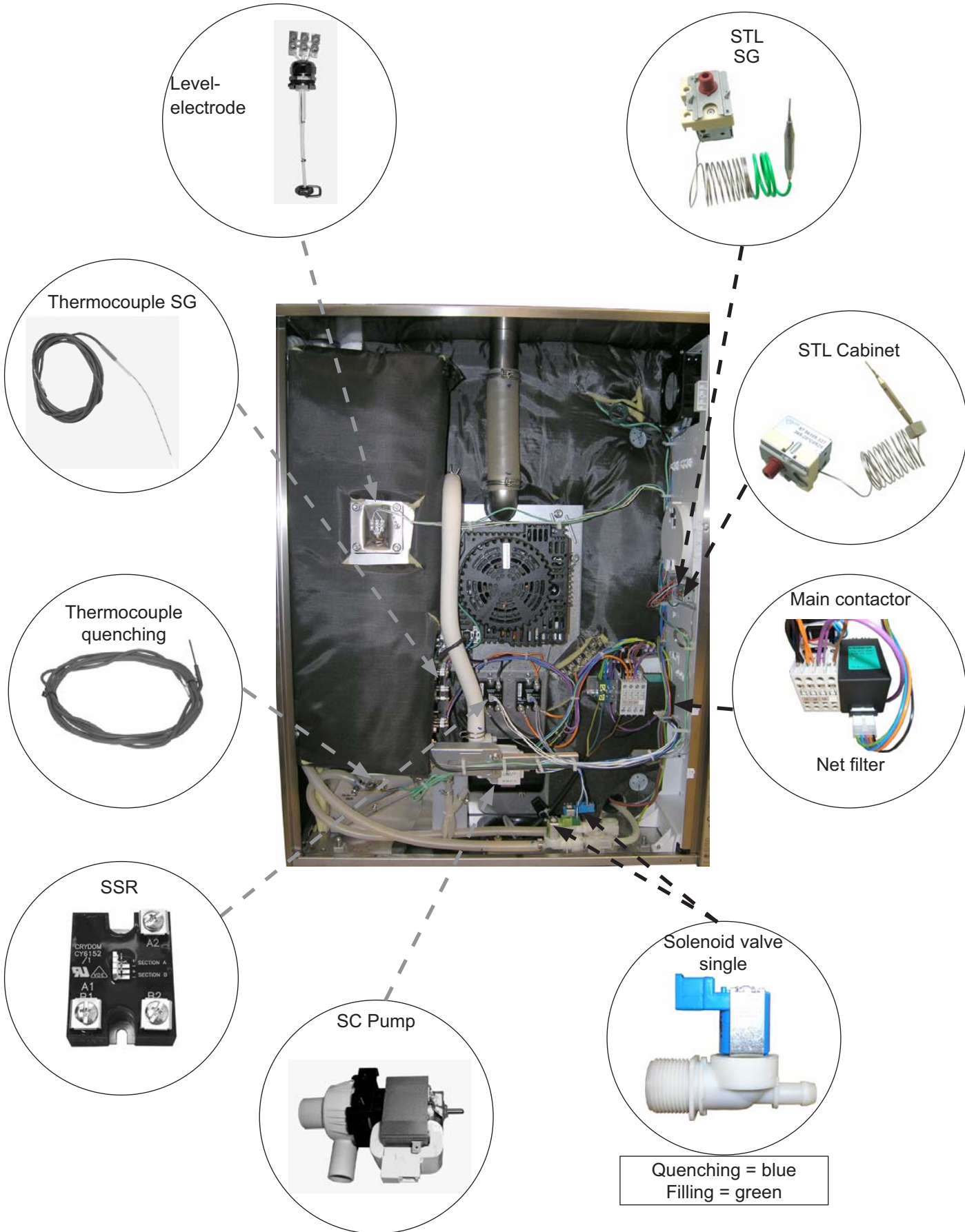
SelfCooking Center®  
20 x 2/1 GN



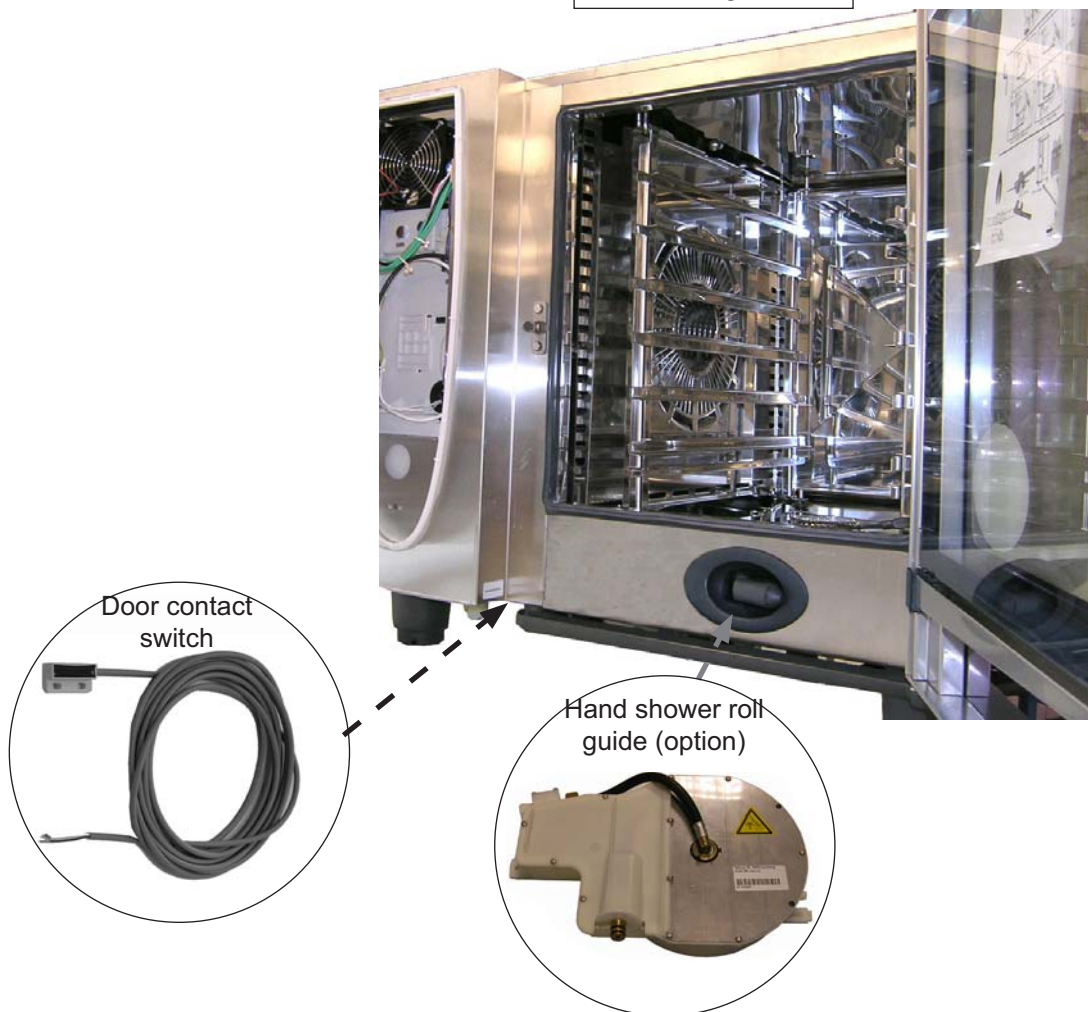
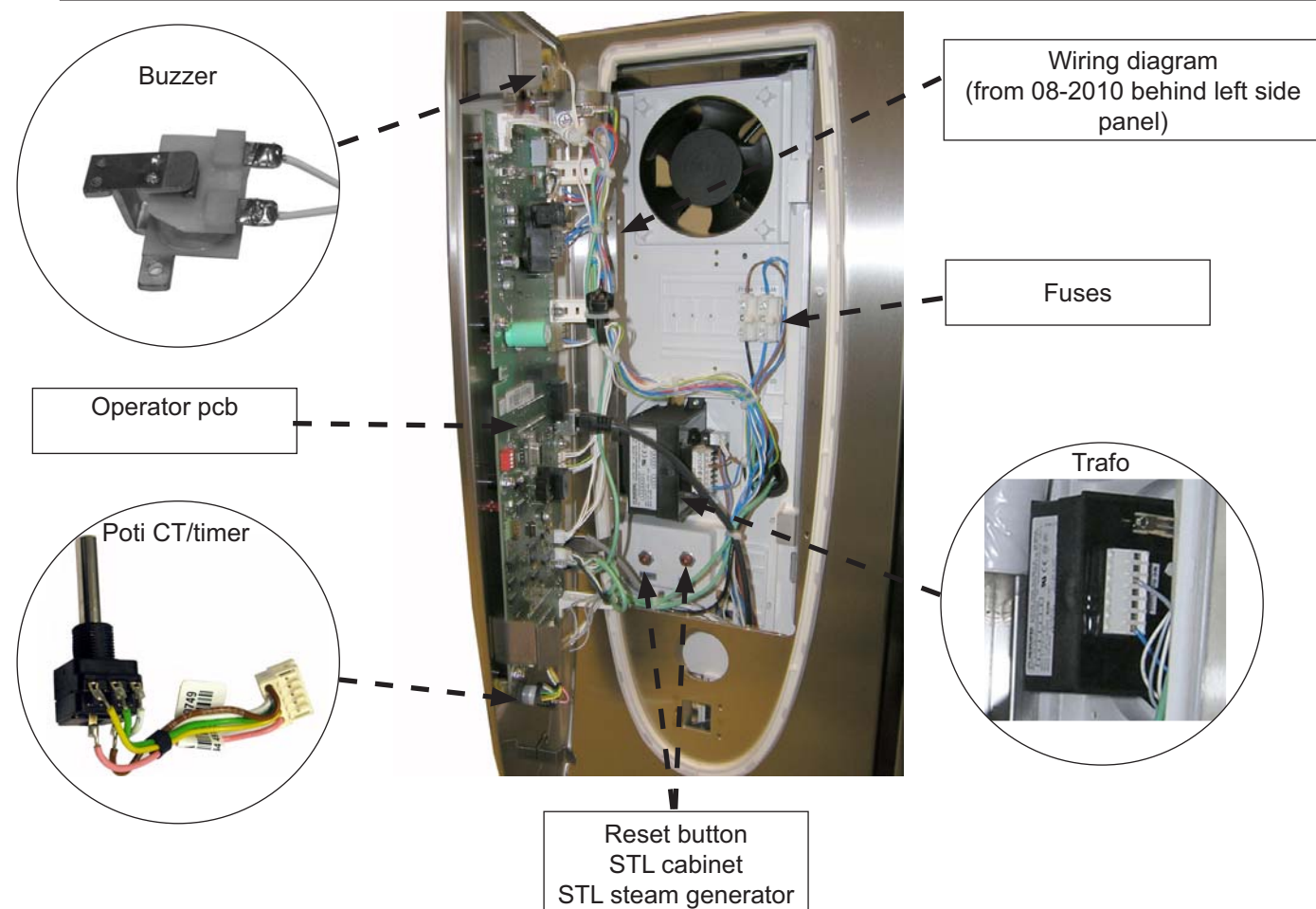
# Function scheme of the Combi Steamer



# Localisation of parts

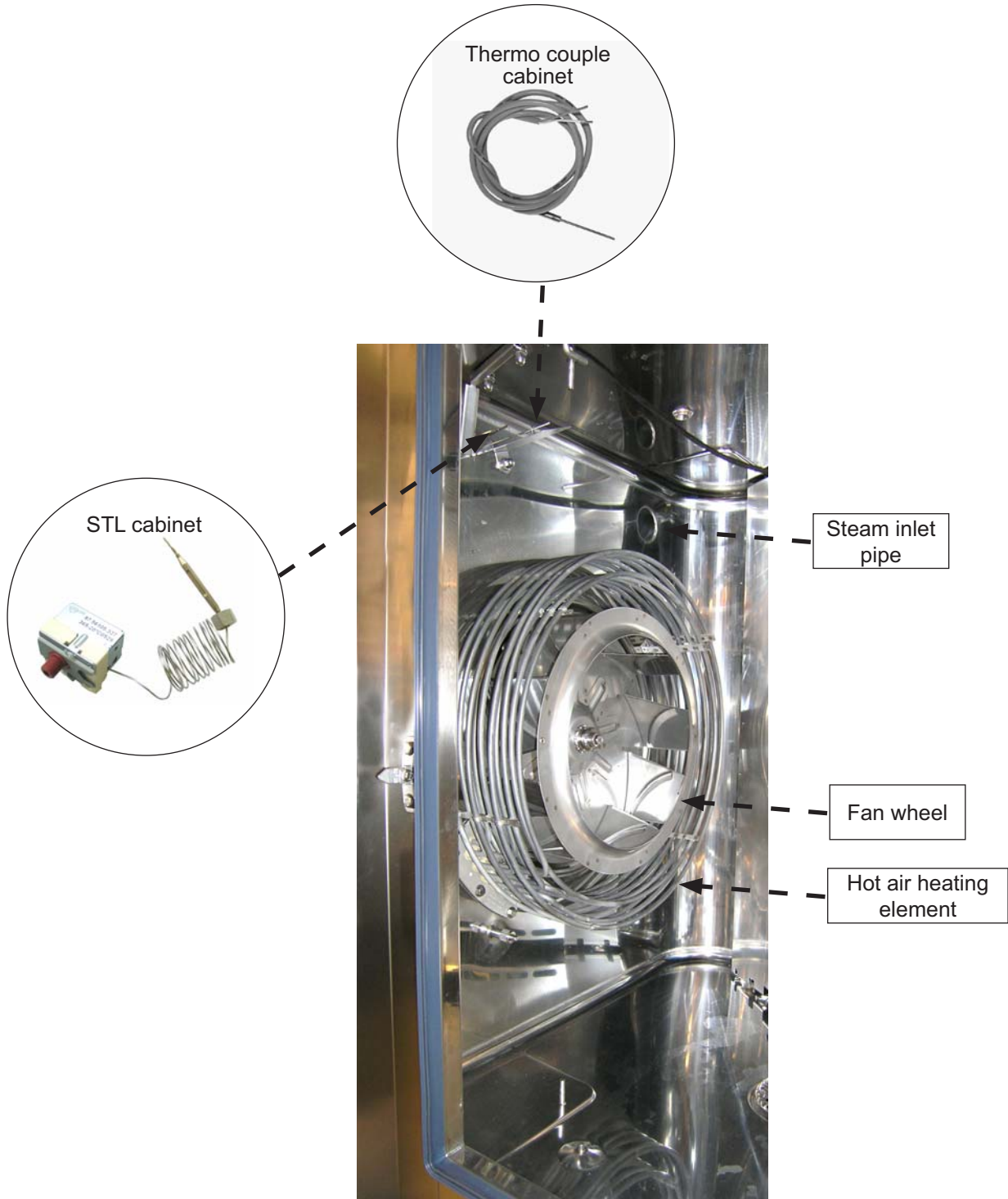


## Localisation of parts

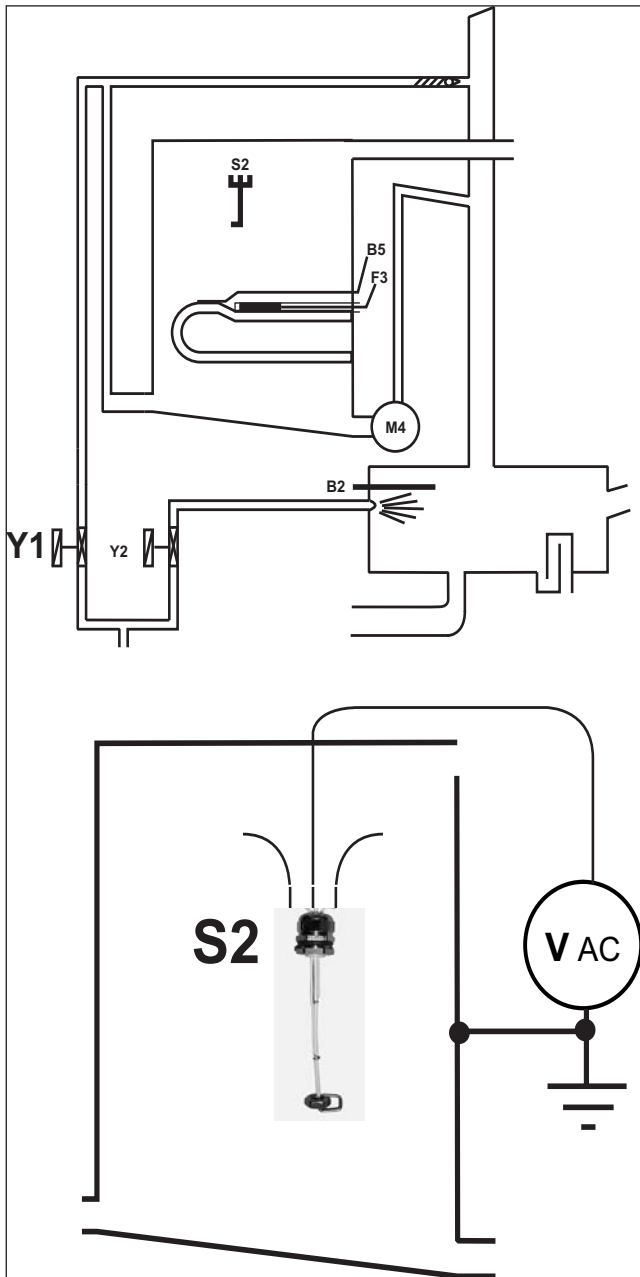


## Localisation of parts

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# Water level control Steam Generator



Center S2 ==> Ground: 2 - 6V AC:  
 water level too low  
 steam heating must switch OFF  
 solenoid valve filling Y1 ON

Center S2 ==> Ground: 0V AC:  
 water level reached  
 steam heating can switch ON  
 solenoid valve filling Y1 switched OFF

The level electrode is equipped with two side electrodes to ensure a safe water level recognition even though the level electrode is scaled. These side electrodes compensate the build up of scale (CM).

Permanent water level control;  
 Maximum continuous steam time: 2 Minutes,

Property of connected water:  
 Conductivity must be above 50µS/cm;

Overfilling of the steam generator can be caused by a connected water treatment system.



St.Gen. empty: ca. 2 - 6V AC  
 St.Gen. empty: 0V

SV Filling on 230V  
 SV Filling off 0V

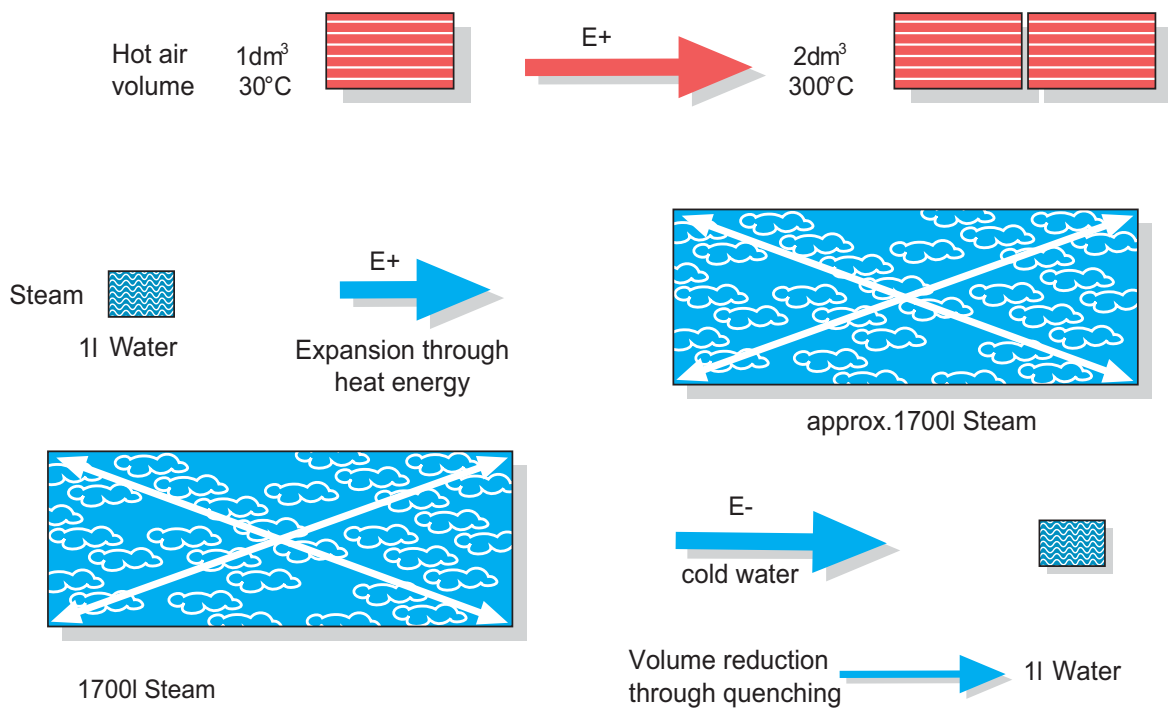
Heating on 230V  
 Heating off 0V



Filling SG      Max. heating 2 Min.      Control      Steam heating



# Water- / Steam relation



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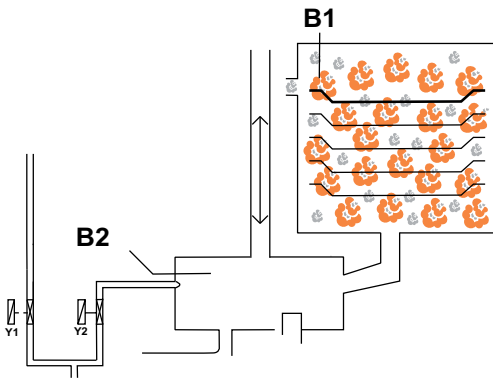
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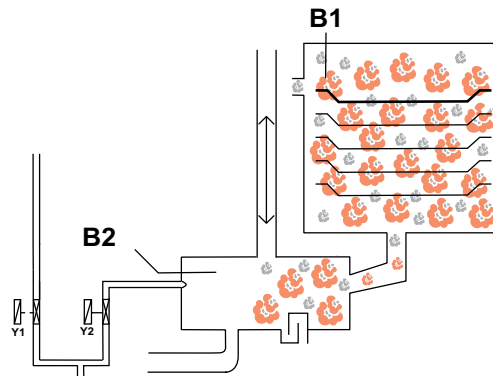
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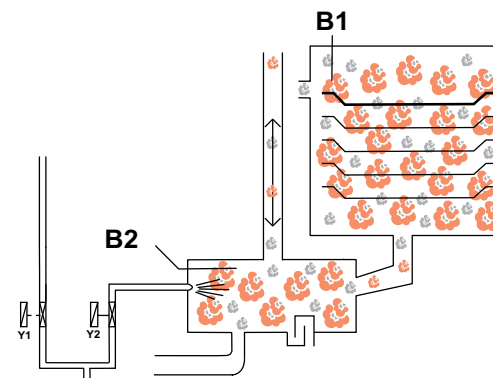
## Intelligent steam control via quenching sensor



1. Filling of interior cabinet based on time and temperature control of B2 quenching sensor; (cabinet if fully filled with steam and all surfaces have reached steam temperature).

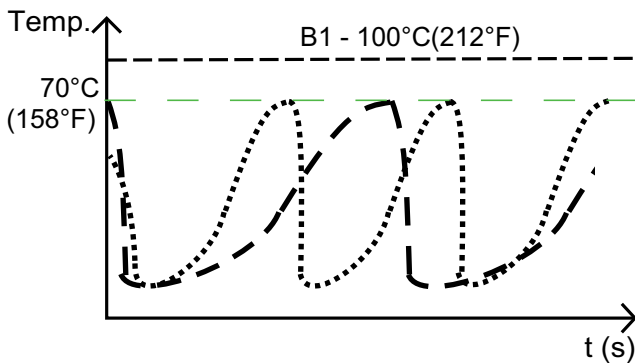


2. After steam saturation inside cabinet steam will also fill quenching chamber



3. After reaching quenching temperature (B2) quenching solenoid Y2 will be activated.

Depending on the frequency of temperature raise of the quenching sensor B2 the duration of the next steam supply is calculated.



..... B2 temperature with partial load  
 - - - - B2 temperature with full load

4. The amount of steam inside the cabinet is directly depending on the temperature variation of quenching sensor B2.




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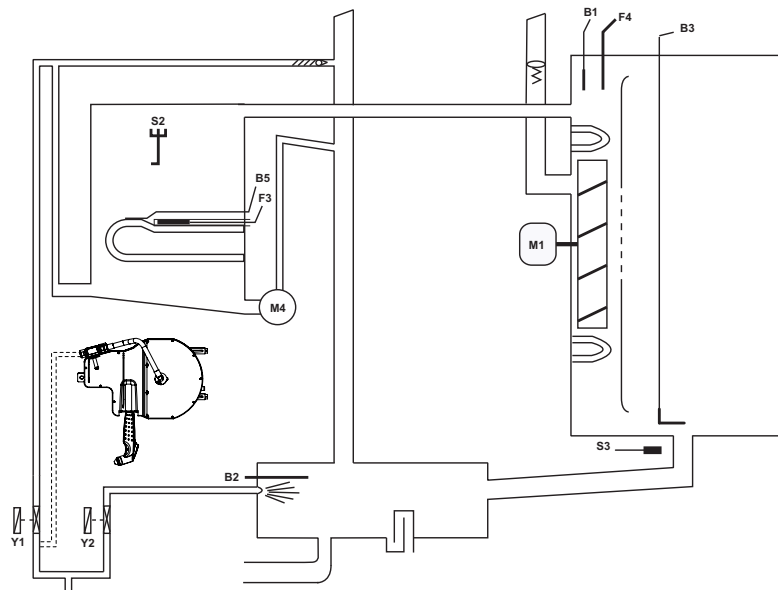
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## Cooking modes

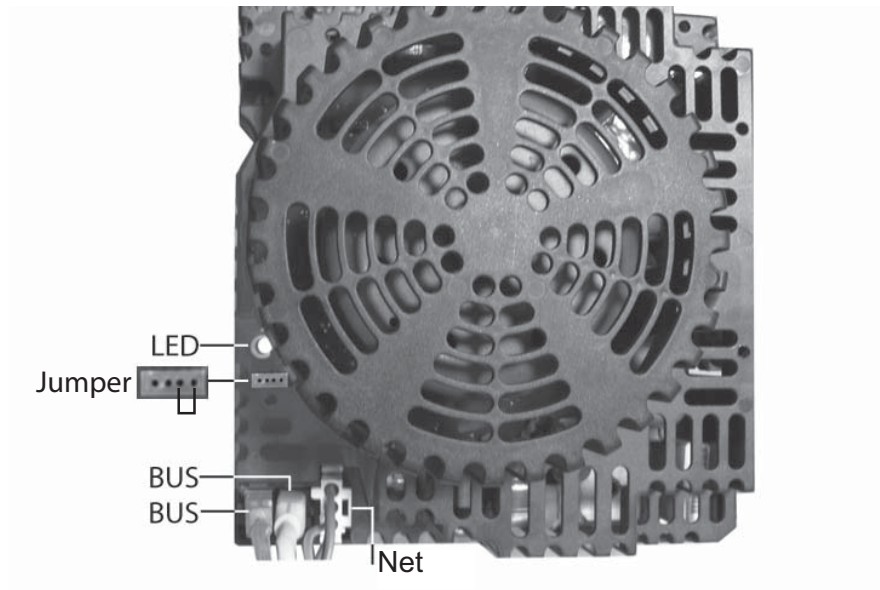


To activate the unit the following conditions must be given:

1. Cooking mode is selected.
2. Cooking time or core temperature is set.
3. Cabinet door is closed.
4. In case of wet cooking modes, water must be detected in the steam generator.

Mode	Designation	Temperature range	Responsible sensor
	Steam	100°C fixed value	Quenching sensor (B2) controls steam heating
	Vario Steam	30-99°C	Cabinet sensor (B1) controls steam heating
	Combi Steam	30-300°C	Cabinet sensor (B1) controls hot air heating Quenching sensor (B2) controls steam heating <b>Hot air heating has priority over steam heating</b>
	Finishing	30- 300°C	Cabinet sensor (B1) controls hot air heating Quenching sensor (B2) controls steam heating Alternating heating with steam and hot air Electr.: 8/8sec., Gas: 20/20 sec.
	Hot air	30 - 300°C	Cabinet sensor (B1) controls hot air heating

## Fan motor

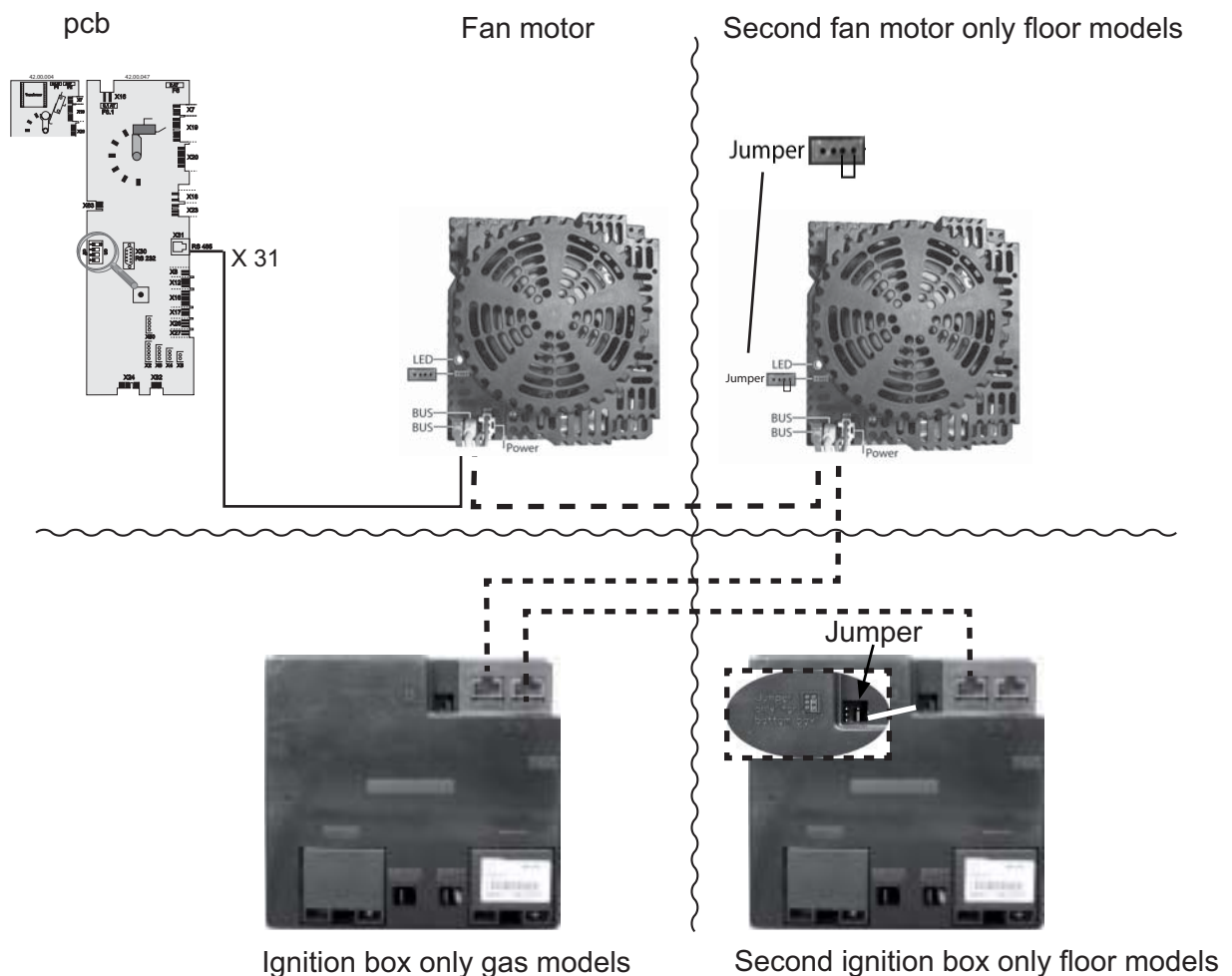


Jumper 40.01.581 is ONLY set on floor model 201 and 202 on top motor for a uniquely defined address  
 Jumper is not used on models 61 - 102 as only one motor is installed!  
 If jumper is not set correctly a failure display, depending on the model, is shown!

<b>LED code fan motor SCC and CM from 04/2004</b>		
	Reason	Remedy
1x	Motor doesn't start, no changing signal from hallsensor	Check for motor blockage or change motor.
2x	Voltage too low on motor pcb	Check supply voltage or change motor.
3x	Voltage too high on motor pcb	Check supply voltage or change motor.
4x	rpm measurement defective	Change motor.
5x	Motor pcb temperature >105°C	Check cooling system (cooling fan, air intake filter), otherwise change motor
6x	Supply voltage <80V	Check power supply (F1-F2)
7x	Motor pcb defective	Change motor.
8x	Motor pcb defective	Change motor.

**Only units 3AC400-480V (without neutral) are equipped with motor 40.00.276 (3-phase supply)  
 All other units are equipped with motor 40.00.274.**

## Bus control (data line)



### Basics:

In a bus system the single items are operated via addresses.

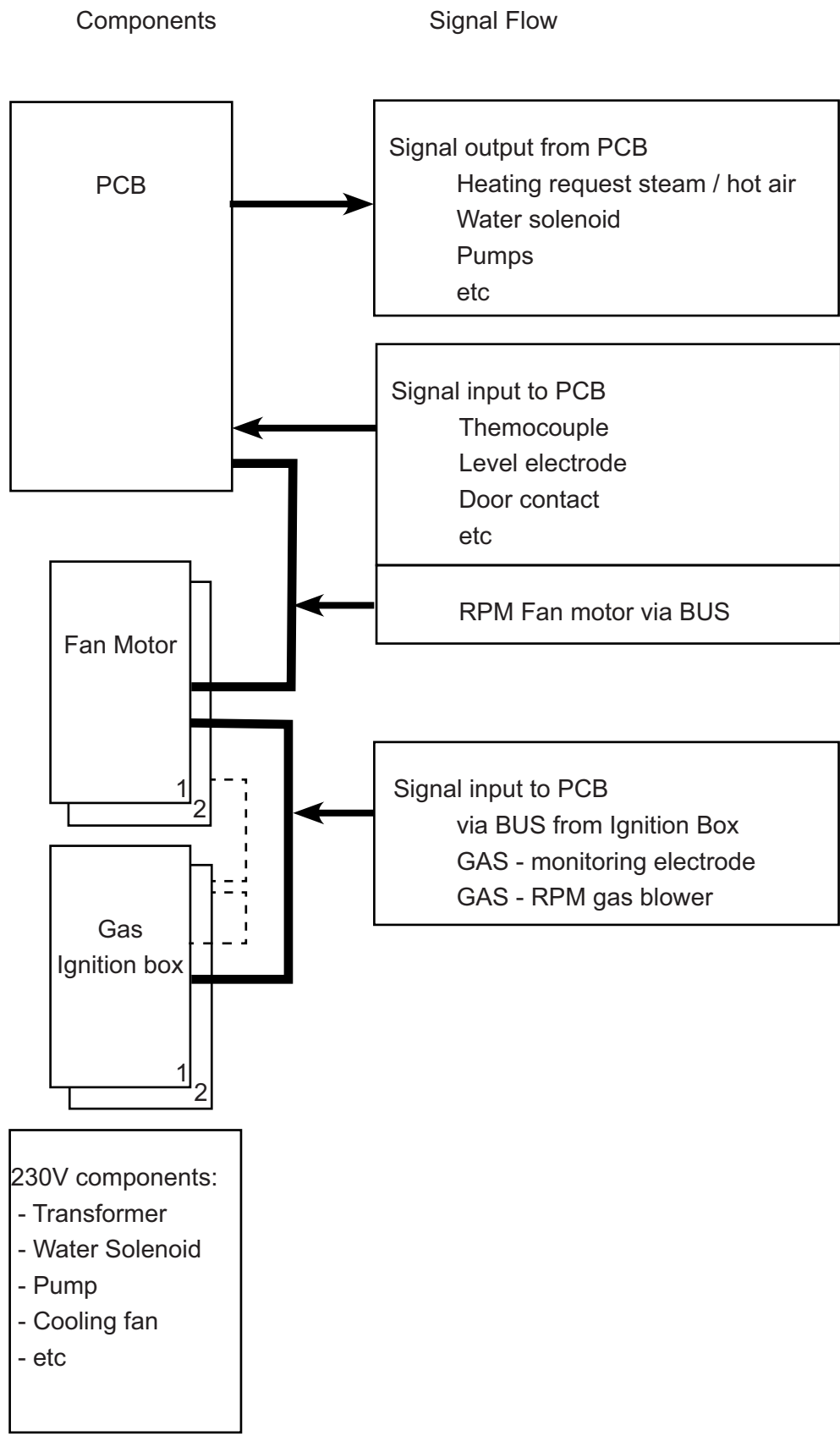
Every address only exists once in the system and is permanent assigned to every part.

By sending the address with a corresponding information in digital format the CPU tells the parts which actions shall be taken.

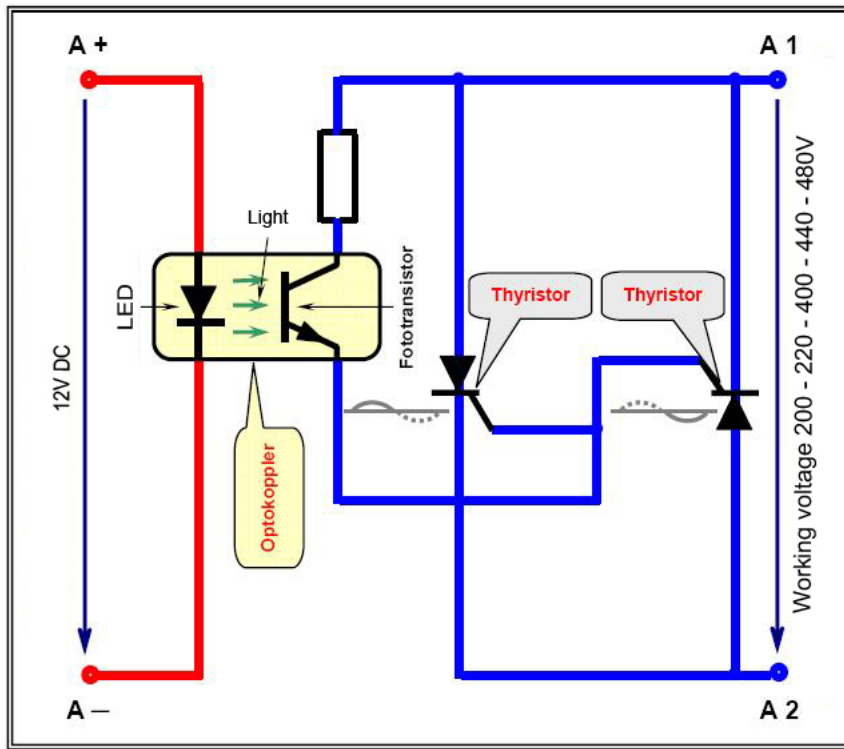
Additionally the CPU can receive information from the parts (e.g. actual rpm`s).

If two ignition boxes respectively two motors are installed in a unit, the identical parts must have different addresses. These different addresses are generated by setting a jumper in the corresponding parts (see pictures above).

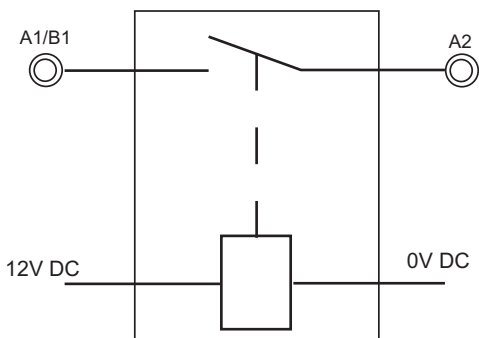
# Control of basic functions



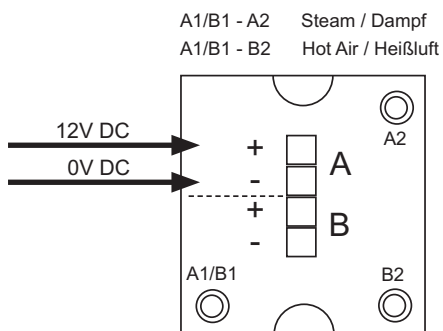
# SolidStateRelay (SSR) internal design / Test



Contactor with 12V DC coil

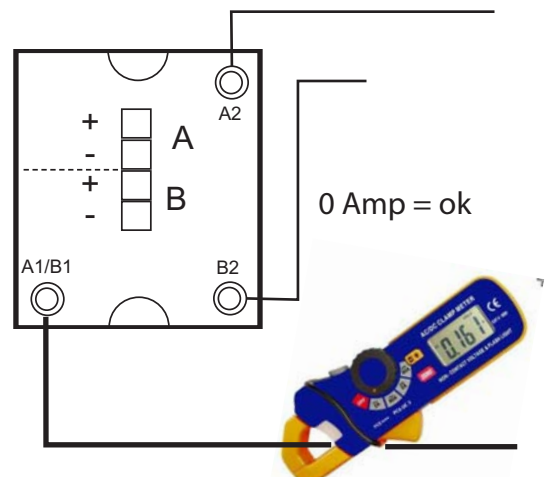
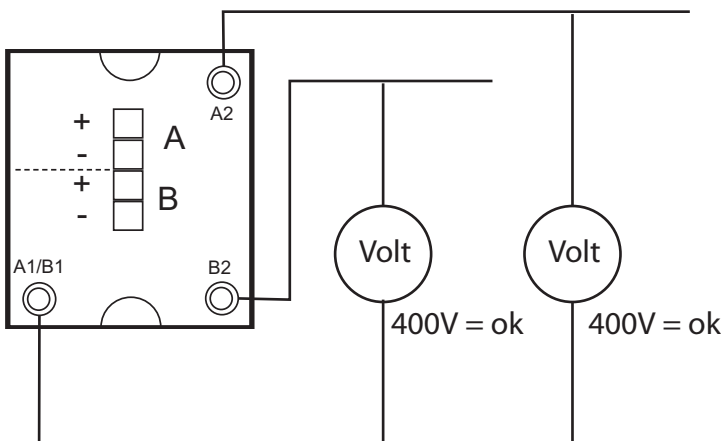


SSR with 12V DC control



SSR Test: Unit is switched ON and cabinet door is open

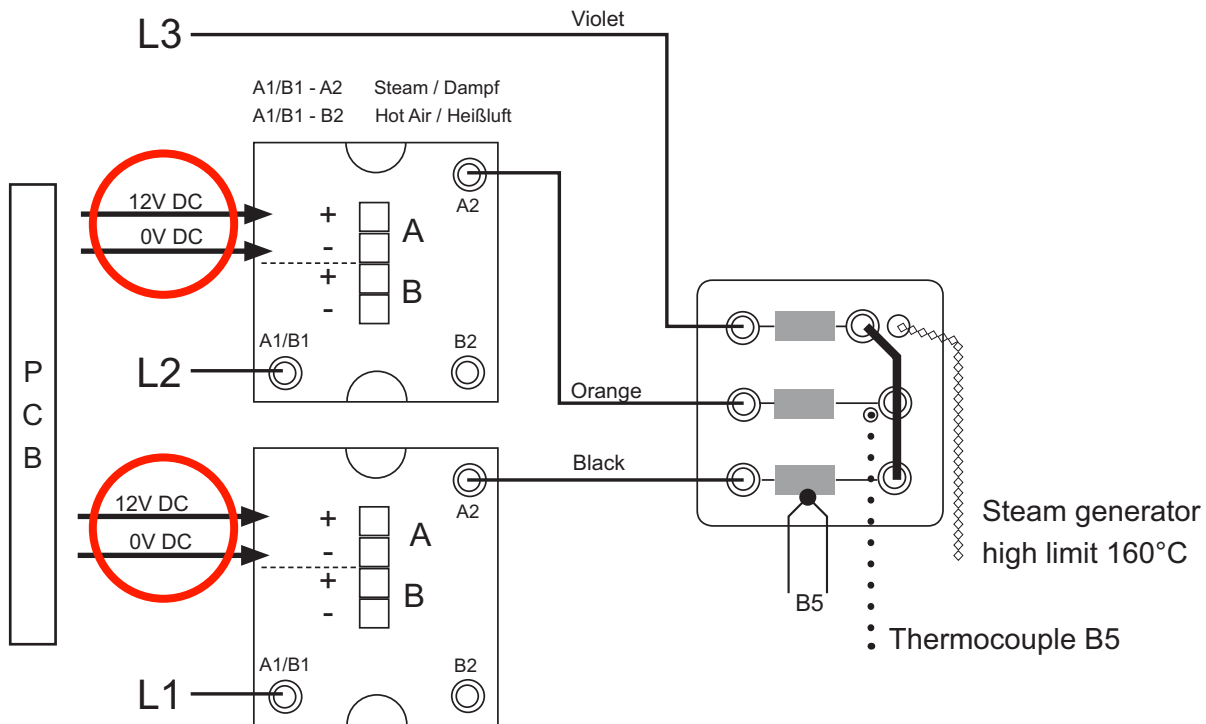
L1 - L2 = 400V



## SSR 100% - 50% power at 3NAC/400V

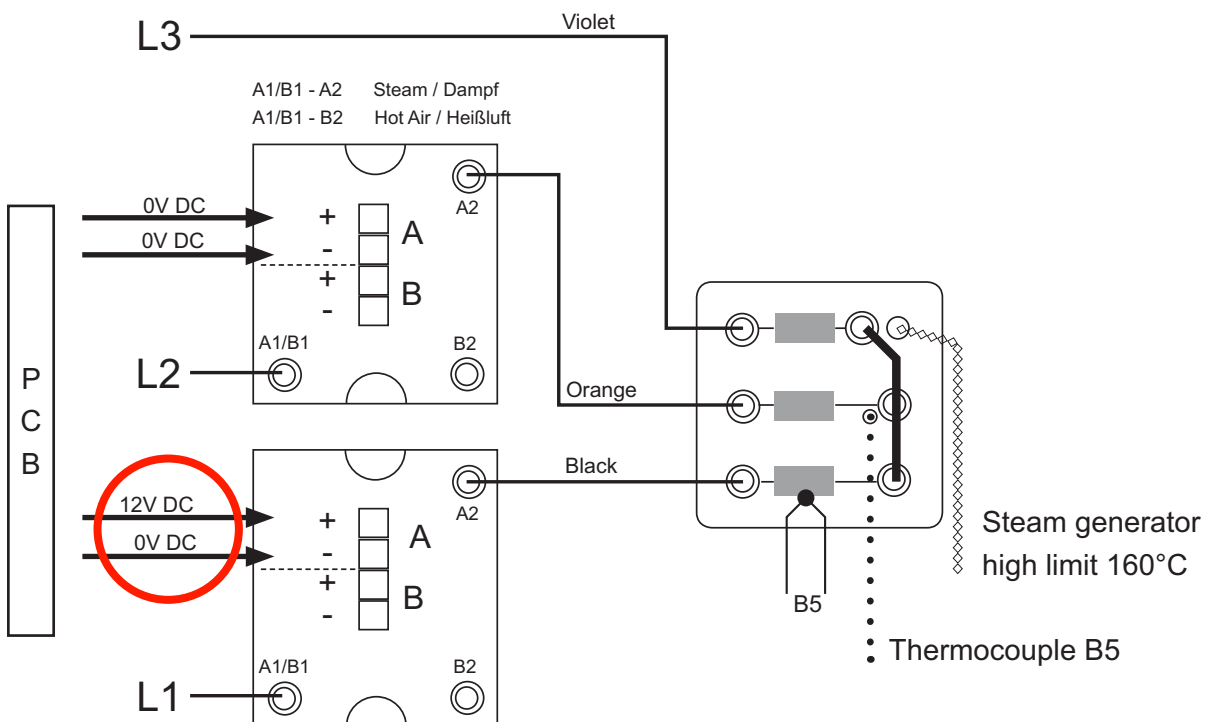
### Control of SSR steam element at 100% energy demand

Star connection 3(N)AC 400-480V



### Control of SSR steam element at 50% energy demand

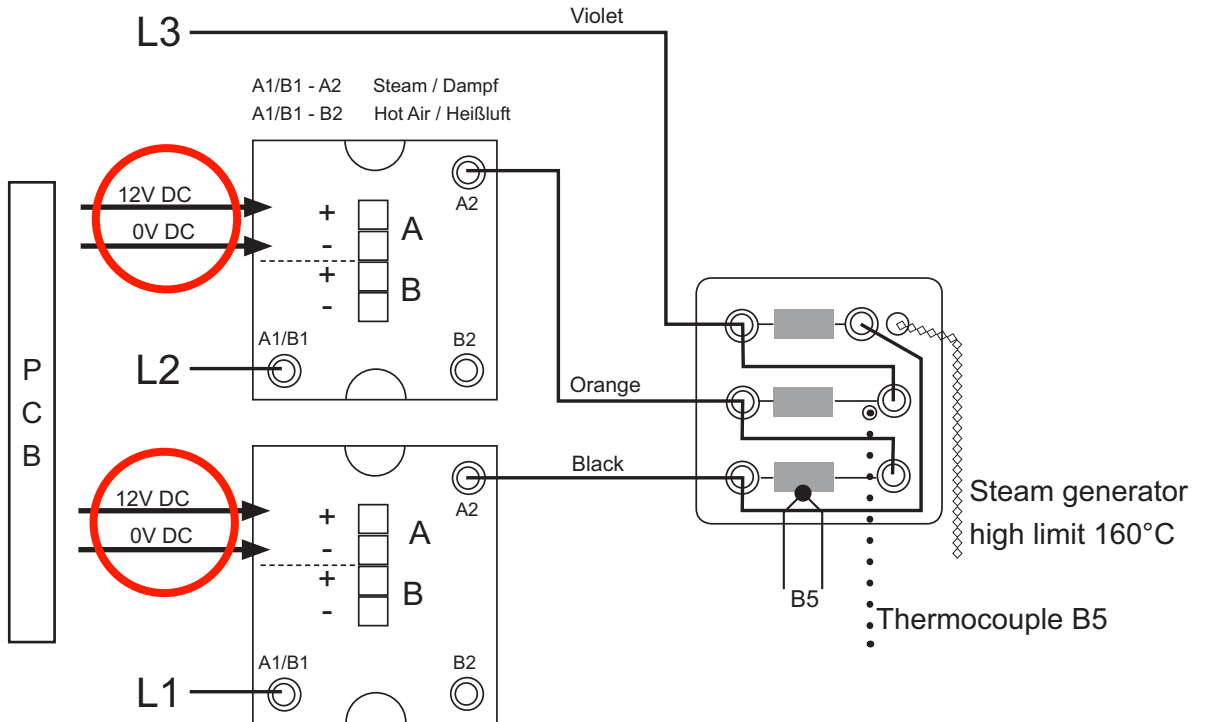
Star connection 3(N)AC 400-480V



## SSR 100% - 50% power at 3AC 200-240V

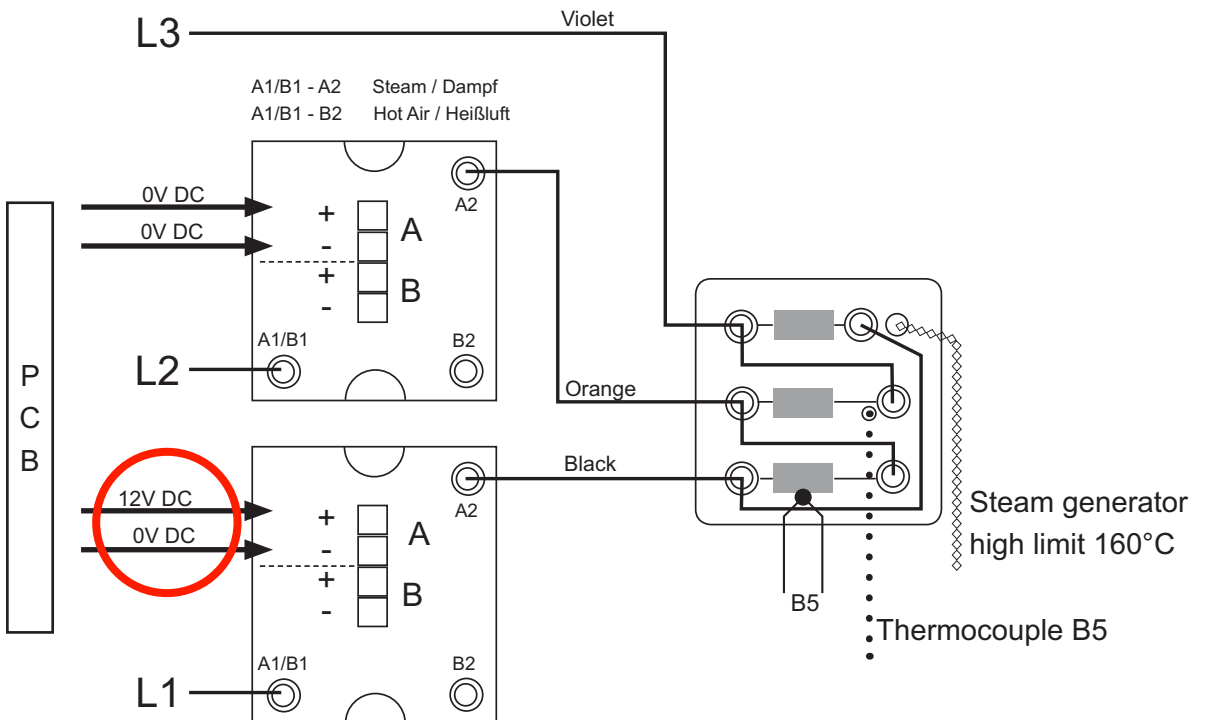
### Control of SSR steam element at 100% energy demand

Delta connection 3AC 200-240V



### Control of SSR steam element at 50% energy demand

Delta connection 3AC 200-240V



## General information about water

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The conductivity of the connected water should be above  $50\mu\text{S}/\text{cm}$  (micro Siemens).

The measured total hardness (TH) is normally higher than the measured amount of calcium or magnesium carbonat ( $\text{CaCO}_3$ ,  $\text{MgCO}_3$ ).

Should the total hardness be smaller than the Carbonat hardness, most likely a water treatment plant is connected.

Common terms:

General hardness	GH	is the measure of carbonat (KH) and non-carbonat hardness (NKH) in the water
Carbonate hardness	KH	is the measure of bicarbonate ( $\text{HCO}_3^-$ ) and carbonate ( $\text{CO}_3^{--}$ ) ions in the water; Temporary water hardness; Forms sediments when boiled;
Non-carbonat hardness	NKH	Calcium and Magnesium ions in the water; permanent water hardness which can not be removed by boiling
German Hardness	dH	$1^\circ\text{dH} = 10\text{mg CaO} / \text{l}$ e.g. 17,8 ppm $\text{CaCO}_3$ (USA)
Chlor Chloride	Cl $\text{Cl}^-$	Gaseous, (used in swimming pools), limit 0,2mg/l chemical bond of chlorid e.g. NaCl, limit 80mg/l

### Waster Analysis

Which values are needed?

- General hardness GH
- Carbonate hardness KH
- Conductivity in micro Siemens/cm
- Ideal: Water analysis with chlorid content value

### Possible reasons for corrosion

- Excessive usage
- ferritic accessories
- rusting water pipes
- Cleaning procedure (Unit is not dry over night)
- water



*Analysekoffer /  
Analysis case*



Because of continuous examinations of systems for water treatment we would like to offer you a few information on some different systems.

The given statements are only related to Rational units.

If you already have made experiences with systems for water treatment, we would be very thankful if you could send us a short fax about your experiences.

### 1. Recommended systems for water treatment:

- A) With pure scale problems in the steam generator we recommend hydrogen-(H<sup>+</sup>)-Ionic exchanger. These type of filters will extend the intervals of descaling to approx. 5 to 8-times of the normal descaling intervals. But even with this type of filters it is still necessary to descale the steam generator.
- B) With a high chloride – content above 80mg/l of water, it is possible, that the interior cabinet starts to corrode. To remedy this problem it is necessary to install a reverse - osmosis – filter.
- C) With chlorine-contents above 0,2 mg/l of water an active carbon filter should be installed, to avoid corrosive radicals when chlorine is heated up.
- D) If the water is soiled with sand, iron particles or suspended matters a particle filter with 5-15 µm is recommended.

### 2. Limited recommended systems for water treatment.

Physical systems for water treatment:

On some sites this type of water treatment (is directly installed in the water supply of the unit) showed satisfactory results. On other sites there was no positive effect visible with this type of system. Because of these circumstances we can not make a final assessment of this system.

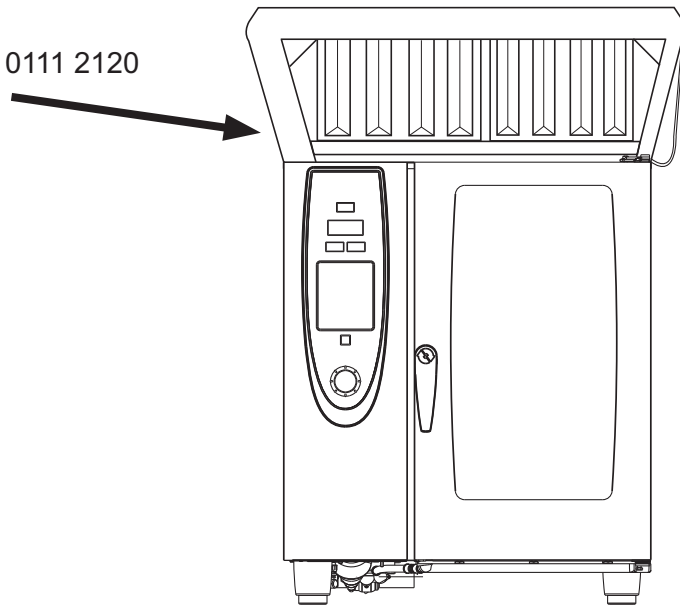
### 3. Not recommended systems for water treatment.

- A) Sodium-Ionic exchanger:  
With this filter system calcium is replaced by sodium. On chlorine contents of the water above 50mg/l, sodium reacts with chlorine to NaCl (=salt). This increase of salt in the water results in a delay in boiling of the water. This delay in boiling can cause "spitting" steam generators.
- B) Silicate-dosing systems:  
This kind of systems are problematic, as the adding of non conductive silicates, will influence the water level measurement.

**Rational recommends Water treatment filters systems of BRITA company.**

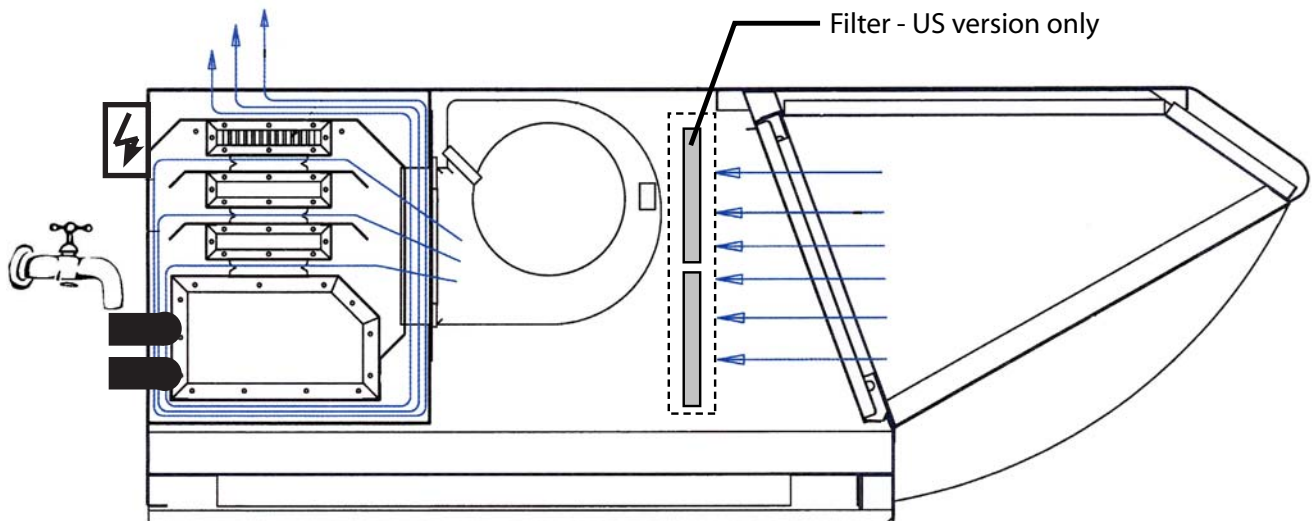
# Ultravent

Serien number e.g.: 6606 2 0111 2120



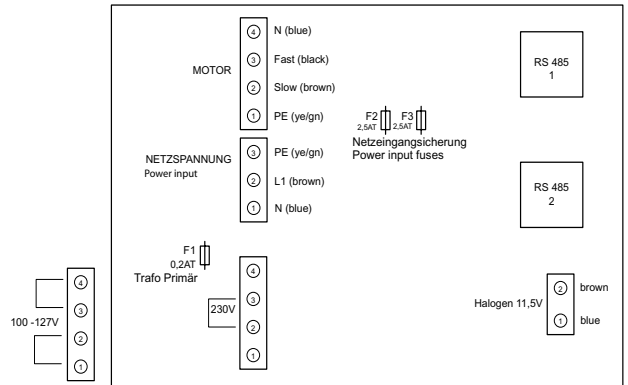
Type	Year	Revision	Day	Month	Number
<b>Ultravent (UV)</b>	06	2	01	11	2120
66 61/101 Electric		1= UltraVent Relais control			
68 61/101 Electric, Combi-Duo		2= UltraVent BUS control (from 11-2006)			
70 61/101 Gas					
72 62/102 Electric					
73 201 Electric					
74 61/101 Electric Version US/Can		1= Relais control box inside Ultravent (no Bus)			
77 62 Electric Version US/Can		2= Relais control box outside Ultravent (no Bus)			
<b>Vent hood (EH):</b>					
60 61/101 Electric					
62 61/101 Electric, Combi-Duo					
64 61/101 Gas					
08 62/102 Electric,					

## Air circulation Ultravent:



## Ultravent with Bus control (since November 2006)

No main ON-OFF switch. Ultravent will start running when SCC/CM is switched on.  
 Connect bus cable at fan motor at electric units, at ignition box at gas units;  
 Ultravent for single units have only one bus connection terminal, those for Combi Duo have two bus terminals;  
 Only pcb with two bus terminals are send when you need a replacement pcb for Ultravent (42.00.050)



### LED on Ultravent pcb

After connecting the Ultravent to the bus system the SCC/CM must be switched off and on again to detect the new connection.

If the LED is permanent ON the bus connection is not established.



Blinking of the LED means bus connection ok.



### SCC units

The SCC must run on at least software version 01.07.11 (earlier versions do not support the bus control)

### Software Version 01.07.11 - 02.01.02

Ultravent light will be ON or OFF as the SCC is switched ON or OFF.  
 Fan motor will continue to run even after the cooking process (time or core probe) is finished and stops only when the cooking process is de-selected or the unit is switched OFF.

### From version 03.01.01

Ultravent light will be ON only after selecting a cooking process.  
 Fan motor starts after the cooking process is started and continues for another 30 minutes after the cooking process is stopped. at the same time the light will be switched OFF.  
 Same applies for any Cleanjet process.

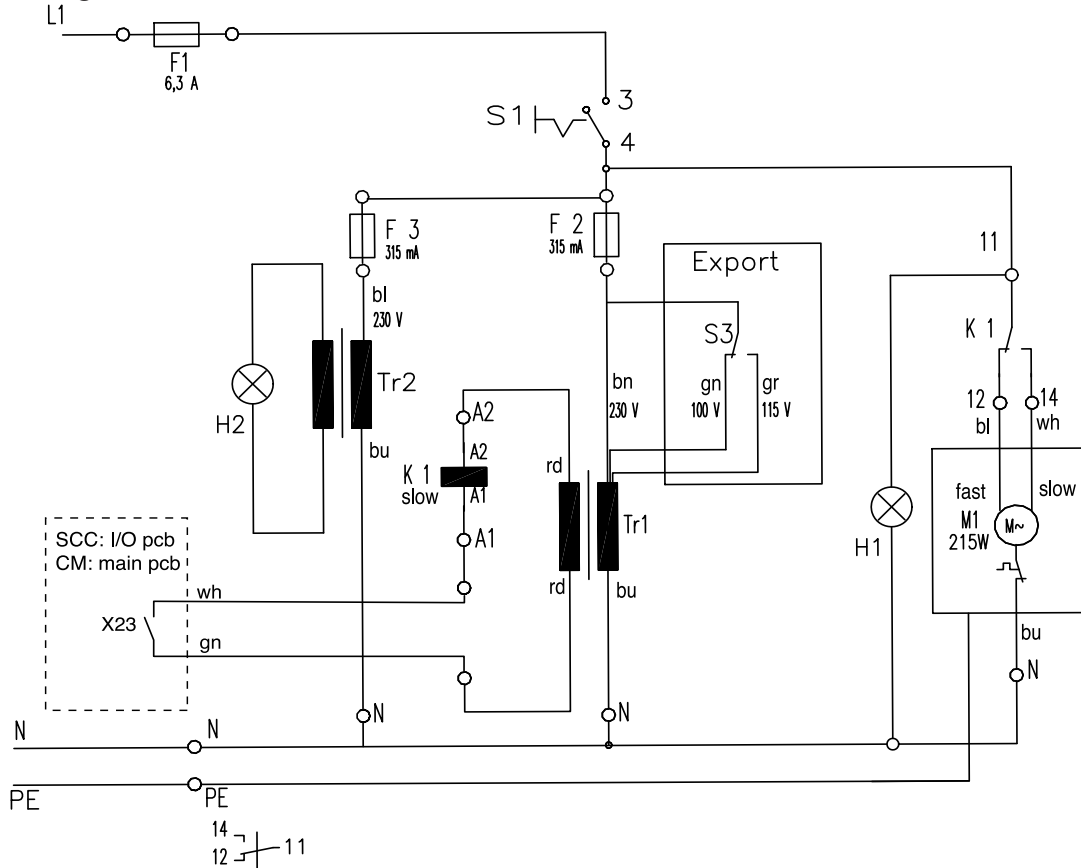
### CM units

The CM must run on at least software version C1.07.01  
 Ultravent will start and stop as the CM is switched ON or OFF.

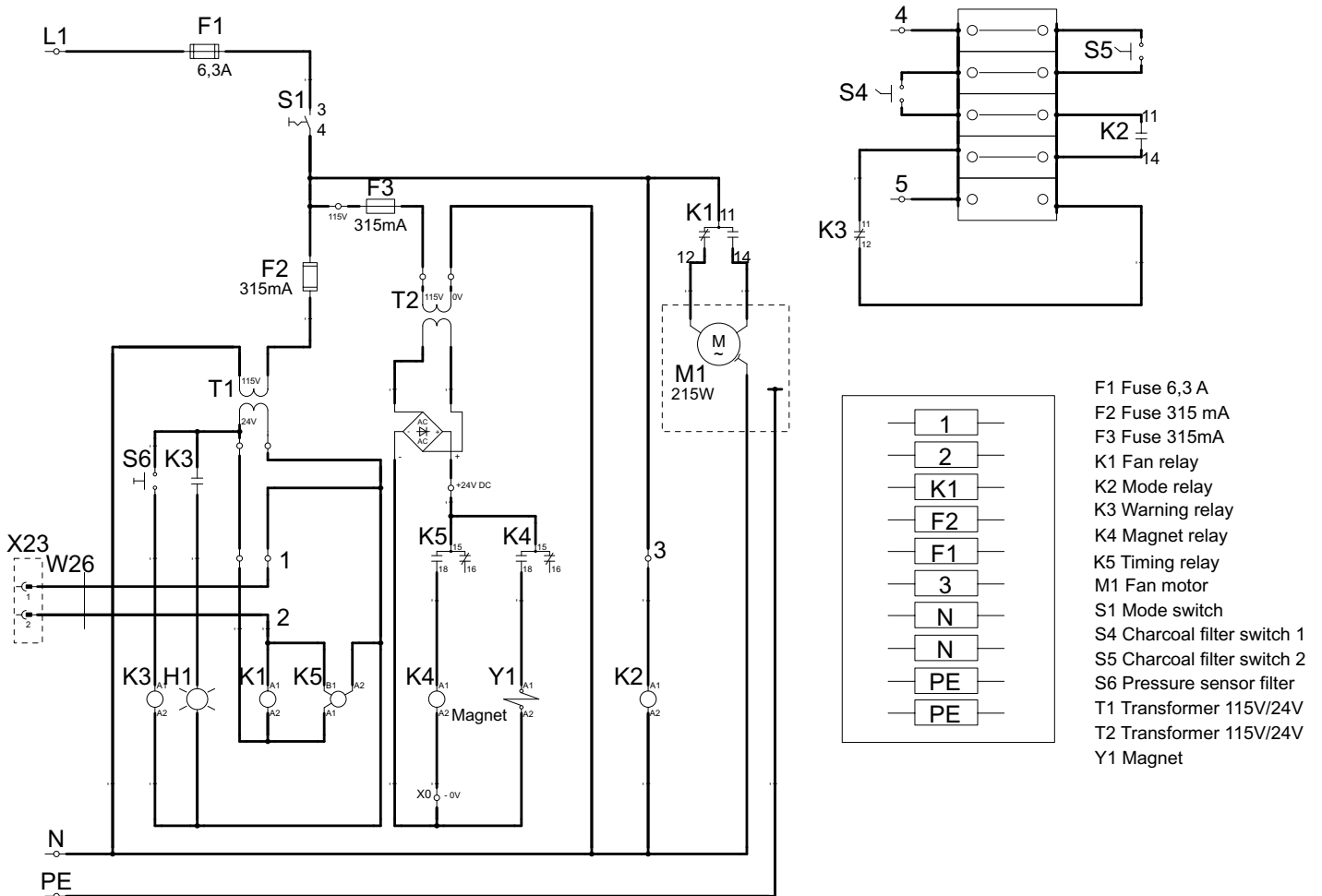
### Ultravent with relais control produced until 10/2006

Ultravent is switched on with ON/OFF switch (fan motor and light will be on);  
 Fan motor is controlled from contact of X 23 on I/O pcb (SCC units) or main pcb (CM units).  
 If cabinet door is open this contact is open and the fan motor runs on high rpm.  
 If cabinet door is closed this contact is closed as well and the fan motor runs on low rpm.

### Circuit diagram UV Standard



### Circuit diagram Ultraviolet US version



- F1 Fuse 6,3 A
- F2 Fuse 315 mA
- F3 Fuse 315mA
- K1 Fan relay
- K2 Mode relay
- K3 Warning relay
- K4 Magnet relay
- K5 Timing relay
- M1 Fan motor
- S1 Mode switch
- S4 Charcoal filter switch 1
- S5 Charcoal filter switch 2
- S6 Pressure sensor filter
- T1 Transformer 115V/24V
- T2 Transformer 115V/24V
- Y1 Magnet

## CombiDuo, Thermo cabinet

The following units of SCC line can be combined as a CombiDuo:

Electric on Electric (E/E)	Gas on Gas (G/G)
Size 61 on Size 61	Size 61 on Size 61
Size 61 on Size 101	Size 61 on Size 101
Size 61 on Size 62	Size 61 on Size 62
Size 61 on Size 102	Size 61 on Size 102
Size 62 on Size 62	Size 62 on Size 62
Size 62 on Size 102	Size 62 on Size 102
Size 101 on Size 62	Size 101 on Size 62

Electric on Gas (E/G)	Gas on Electric (G/E)
Size 61 on Size 61	Size 61 on Size 61
Size 61 on Size 101	Size 61 on Size 101
Size 61 on Size 62	Size 61 on Size 62
Size 61 on Size 102	Size 61 on Size 102
Size 62 on Size 62	Size 62 on Size 62
Size 62 on Size 102	Size 62 on Size 102
Size 101 on Size 62	Size 101 on Size 62

All combinations can be constructed on 3 different base frames:

1. Movable (front - back) on 40mm rollers
2. On castors (2 fixed - 2 swivel)
3. On 150mm legs



The different combinations require different CombiDuo installation kits!

The combination 101 on top of 61 shall not be assembled! Reason is the unfavourable center of gravity.

Only the combination 61 on 61 (E/E) and 61 on 101 or 62 on 102 Electric (E/E) and (G/E) in the construction "Movable" have the top GN runner not higher than 1600mm (63").

Installation instructions you can find on the Service DVD 7007.3080 or our Service Web Seite.



The Thermo cabinet is available for unit sizes 61/101 and 62/102.

The heating elements are located inside the middle dividing wall.



This appliance must only be used in catering establishments to keep plates and GN containers warm!

Due to hygienic regulations the storing of food is not allowed!



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## Sicotronic

Sicotronic: energy management systems and energy optimization plants for electro-thermal and general electrical devices in a large-scale catering establishment.

Industrial customers pay electricity rate according to a maximum of Power consumption. Should the amp draw exceed a set maximum the power supply company will charge a higher permium per KWh. In order to avoid this current peak a surveyance system like Sicotronic is connected to the Power meter which will disconnect individual consumers for a certain time according to a preset priority list. For this purpose these consumers are connected to this system with a signal "energy demand ON". The feed back signal will be interrupted if needed.





## Product surveillance guideline

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According to the European product liability law, RATIONAL AG is required by law to observe RATIONAL products in the markets and to react as soon as any deviation occurs. This product observance liability is being extended to the RATIONAL partners for RATIONAL products sold by the partners.

The liability is described in detail below and consists mainly of the notification duty in case of safety related incidents.

### 1. Objective

The purpose of this guideline is to advise you of the extension of the “duty of notification” to the Service Manager RATIONAL AG.

### 2. Definitions

#### Duty of notification

It is mandatory to report on safety-related market incidents and on other safety-related incidents which have or may have some connection with RATIONAL products.

#### Safety-related market incidents

- An accident with injury to a person or property damage which occurs after installing a RATIONAL product or
- Factors, which could either directly or indirectly endanger the health or life of a person or damage property. Such dangers could arise in following situations:
  - a) Installation (e.g. insufficient electrical coverage, gas point contrary to regulations)
  - b) The methods applied by the user of the appliance (e.g. blockage of the necessary air flow contrary to instructions)
  - c) A combination of RATIONAL products with products from other companies (e.g. incompatible air/exhaust circulation)
  - d) Manipulation of RATIONAL products (e.g. through manipulation of internal wiring, by-passing safety mechanisms such as the safety temperature regulator)
  - e) RATIONAL products which do not have the permitted standards required at the place of installation (e.g. re-imported appliances, non-sellers)

#### Other safety-related incidents

Accidents or factors as mentioned in the above definition which occur before installing RATIONAL products.

#### RATIONAL products

RATIONAL products include both appliances and accessories (the entire product range including bought-in products).

Every technician trained on RATIONAL products is obliged to confirm his attendance on the “product surveillance training” with his signature annually.

To report on safety-related market incidents and on other safety-related incidents please use the RATIONAL form “product surveillance” (see next page).



# Registration form product surveillance

**To Service**  
**Email: Service@RATIONAL-online.de**

**Reg.No.**  
 (to be filled in by Service in Landsberg)

<b>Registration form for product surveillance</b>		
From subsidiary/ dealer:	Reported by, Name:	P = injury to a person (Please fill in letter) G = danger to a person S = property damage with danger to a person V = insurance case P+S = accident with injury to a person and property damage *with an insurance case, include insurance form and add "V" above
<b>Where installed (address):</b>		<b>Installed by:</b>
<b>Combi-Steamer/Accessories</b> (Type, Serial no, other markings)		Date/time when fault occurred:
		<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Installation date:</td> <td style="width: 50%;">Date fault settled:</td> </tr> </table>
Installation date:	Date fault settled:	
<p><b>Description of fault:</b> (if nec. diagrams, surrounding conditions, installation room, photos, in the case of serious injury please provide info in advance to tel. +49 8191/ 327 208)</p>		
<p><b>Other remarks:</b> (measures carried out or arranged; whereabouts of appliance/parts; info to specialist dealer, chimney sweep, end-user etc.; informed authority, expert, police etc.)</p> <p>Report on findings required? yes / no</p>		
If you exchanged service parts, pls return to RATIONAL Landsberg, QM-R, as soon as possible!  <b>Include a copy of this registration form!</b>  Sent out (date):   Which parcel service:		Parcel number / Tracking number:

# Registration form „Dead on arrival“

Return as .doc file / Als Worddokument senden an:  
[Service@RATIONAL-online.de](mailto:Service@RATIONAL-online.de)

Reg. No.:

<b>Registration form for units “dead on arrival” (DOA)</b> Meldebogen für “Keine Funktion“ nach Geräteinstallation (DOA)		
Reported by subsidiary: / Gemeldet durch (Tochter):	Reported by (Name): / Gemeldet durch (Name):	
Serial No of the unit: / Geräte-Nummer:	Installation date: / Installationsdatum:	Date when fault occurred: / Datum der Fehlererkennung:
	Was the “Seal tested“ intact ?/ War das „Siegel geprüft“ unverletzt?: <input type="checkbox"/> Yes/ja <input type="checkbox"/> No/nein	
Customers Address: / Kundenadresse:	Service Company / Name of Technician who reported the fault: / Adresse des Rational Service Partners / Name des Technikers, der die Meldung gemacht hat:	
Fault description: / Fehlerbeschreibung:		
Fault remedy (if repaired) + service parts used/exchanged: / Fehlerbehebung (falls erfolgreich) u. dazu benötigte Service Teile:		
If you have exchanged service parts, pls return as soon as possible to: Sollten Serviceteile ausgewechselt worden sein, bitte umgehend senden an:  <b>RATIONAL AG</b> <b>Qualitätsmanagement</b> <b>TOR 110, z.Hd. Hr. Macenka</b> <b>Iglinger Strasse 62</b> <b>D-86899 Landsberg/Lech</b>  Sent out (date): / Verschickt am (Datum):	Which parcel service: / Mit Paketdienst:   Parcel number / Tracking number: / Paketnummer / Tracking Nr.:	
Answer from Landsberg (QM): / Kommentar von Landsberg (QM):		
Reason for the fault: / Ursache des Fehlers:		
Actions taken: / Maßnahme:		
Other comments: / Kommentar:		

Copies see mail distribution:  
 Answered by QM:

## Warranty conditions

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With the purchase of a RATIONAL product you are entitled to claim under the legal warranty rights based on your contract. Additional RATIONAL grants further warranty as follows:

### **Duration of warranty:**

The warranty period: 12 months from date of sales contract or 12 months after completion of installation. If the end user registers himself via Internet or via postcard at RATIONAL, he receives a 24 months warranty. During this time RATIONAL guarantees the material costs. All claims to the warranty services are null and void after the end of the unit warranty period.

Spare parts are guaranteed for 12 months after installation. Should the spare part fail again within this warranty period, the spare part warranty is thereby not extended automatically by a further 12 months! Warranty claims have to be made to RATIONAL immediately after discovery.

### **Content of warranty**

RATIONAL's obligation under this warranty is limited to repairing without charge any part(s) found to be defective which can be related to poor component quality. The warranty only covers material costs, excluded are charges for labour and travelling. Any exchanged parts will pass into RATIONAL's possession.

Exclusions are:

Normal wear and tear, defects caused by negligence and/or misuse or abuse, damages caused by noncompliance with the manufacturers installations requirements and neglecting the operator manual. Damages on glass, bulbs, gaskets and other parts subject to wear and tear are excluded from this warranty.

This warranty also excludes any claims if the unit in question was serviced by any other than approved RATIONAL technicians and/or parts other than original RATIONAL spare parts have been used in repair of the equipment.

Any damages based on usage of cleaning agents other than the approved RATIONAL cleaning agents and /or insufficient results and damages based on wrong usage of any cleaning agents are also excluded from this warranty.

### **The fastest way to get your warranty credit note!**

Send back a monthly warranty report (as attached sample) at the end of each month, or every 2 months.

The warranty return report must have a reference (e. g. "March 2008")

Fill in all fields up to the last grey-marked block (this is filled in by RATIONAL)

The serial number always has to be filled in completely!

Comm. date is the date the unit was installed. If this date is missing we take the S/N as a reference (note: the S/N contains the production date which is in most cases much earlier than the installation date!)

Spare part number has to be filled in with the number of pieces.

The additional information, like damage code and cause code, repair date, response time (from the customer call to arrival of the technician), reason (if several visits were necessary), complete customer's address, and technicians - ID have conscientiously to be registered.

Grey block (this is filled in by RATIONAL)

Column "warranty" or "ST-warranty" is registered with an „X" at „Yes" the part as warranty is accepted, is it registered with an "X" at „No", then it is rejected and/or this concerns a wearing part.

Column "part back", is registered with an „X" at „Yes", then please send the part back to RATIONAL, is it registered with an „X" at „ No", then that Part can be locally disposed

## Warranty conditions

### Return Parts:

Return parts deliveries have to be announced to RATIONAL in advance.

Freight charges for Return parts will pay by Rational.

A packing list is required for customs clearance.

The returned parts have to be marked clearly, so they can be assigned to the corresponding warranty claim.

Parts can be collected and send back also on a 2 – 3 months basis.

### Credit Note:

Parts listed on the warranty report, which do not have to be send back to RATIONAL, Landsberg, will be credited as soon as possible.

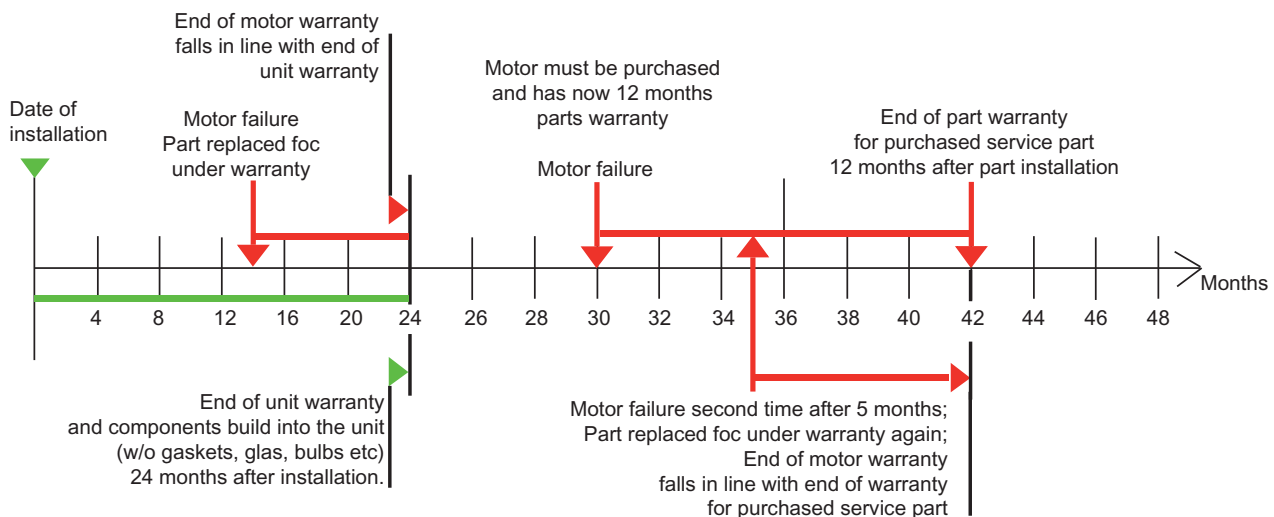
Parts listed on the warranty report, which have to be send back to RATIONAL, Landsberg, will be credited as soon as possible, after incoming inspection.

### Warranty Spare Part Order:

All parts ordered „under warranty“ are handled as a normal spare part order – which means: The parts will be invoiced and also freight cost.

That also means: There is no “warranty spare parts order” after all.

### Structure of Service Part warranty for Rational Products (10-2008)



# Warranty conditions



Company

Client code

Month:

No.	Serial number of unit	Date unit installed	Part number	Part number	Part number	Part number	Part number	Part number	Part number	Error description	reaction time	Reason	Several visits		Customer address complete	Technician- ID:	Warranty		To be completed by Rational				
													Damage-code	Cause-code (for main Part)			Missing-material (Articles No.)	Part warranty	Unit warranty	Unit Warranty Yes	Unit Warranty No	Part warranty Yes	Part warranty No
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3																							
4																							
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RTS Contact Germany

Fax: +49 (0)8191-327397  
e-mail: [service@rational-online.com](mailto:service@rational-online.com)  
web: <http://service.rational-online.com>

Service Parts:  
Fax: +49 (0)8191-327408  
e-mail: [rational.ersatzteile@rational-online.com](mailto:rational.ersatzteile@rational-online.com)

Chef Line:  
Phone: +49 (0)8191-327300

Please note that any technical information concerning Rational products must NOT be forwarded to any third party.