

# SERVICE MANUAL

## DELI MULTISSERIE

### MODELS

#### Fri-Jado Deli Multisserie with Full Automatic Cleaning



#### - NOTICE -

This manual is prepared for the use of trained Service Technicians and should not be used by those not properly qualified. If you have attended a training for this product, you may be qualified to perform all the procedures in this manual.

This manual is not intended to be all encompassing. If you have not attended a training for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained technician.

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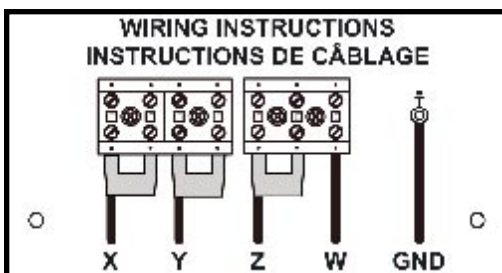
## GENERAL TECHNICAL DATA

This manual covers the Fri-Jado Deli Multiserie ovens. All of the information, illustrations and specifications contained in this manual are based on the latest product information available at the time of printing.

### TECHNICAL DATA

Type	Deli Multiserie
Power	20.6 kW
Fuses needed with power connection 208/120 V, 3~ 60 Hz	3x 60 A
Power connection (see figure below)	208/120 V, 3 ~60 Hz
Net weight	588 lbs.
Gross weight	640 lbs.
Height	44 7/8"
Width	38 3/16"
Depth	49 5/8"

**Warning:** all electrical connections must comply with local codes.



### WATER REQUIREMENTS

Water hardness	2.0 - 4.0 grains per gallon
pH	7.0 - 8.0
Chlorides	less than 30 ppm
Water pressure at inlet point	minimum 30 psi at 4 gallons per minute

Use sediment pre-filter or a strainer for the reduction of silica and other non-dissolved sediments plus an active carbon pre-filter for the reduction of chlorine. In case of water hardness of 4 grains per gallon or more, use a decalcifying filter for reducing calcium. Contact your local water supplier for details regarding water quality.

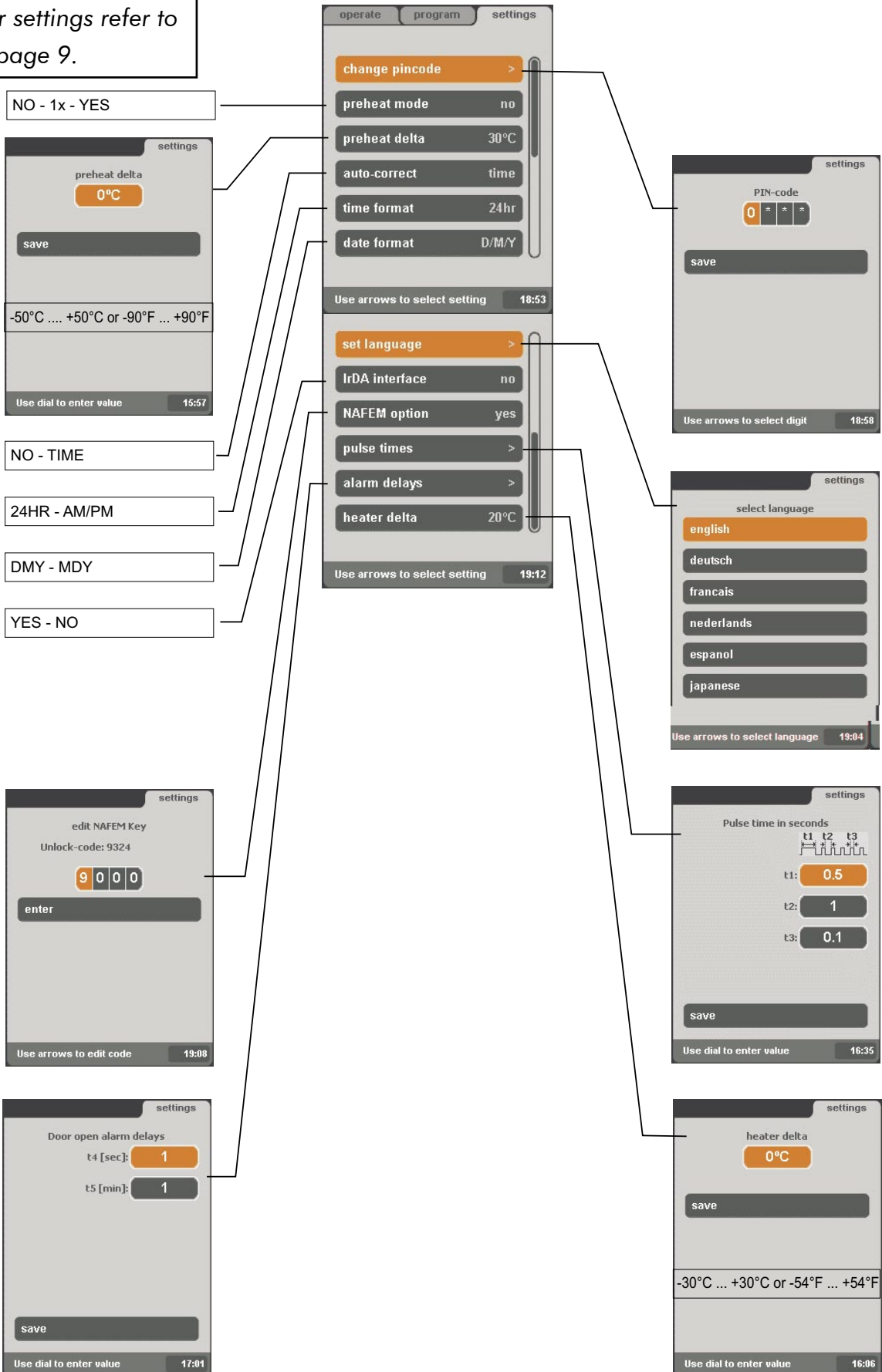
Water pressure available to the Multiserie (after passing the filters) must be at a minimum of 30 PSI at 4 gallons per minute flow.

**Warning:** all plumbing connections must comply with local sanitary, safety and plumbing codes.



**Note:** all shown values and screens are examples. For parameter settings refer to page 9.

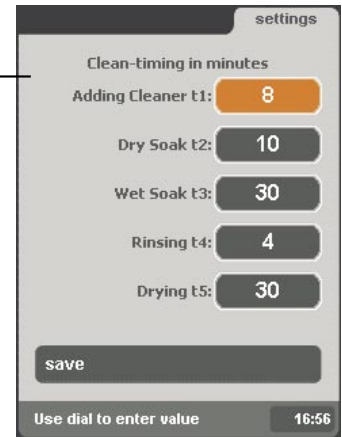
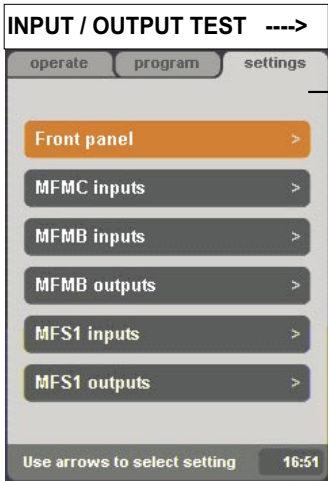
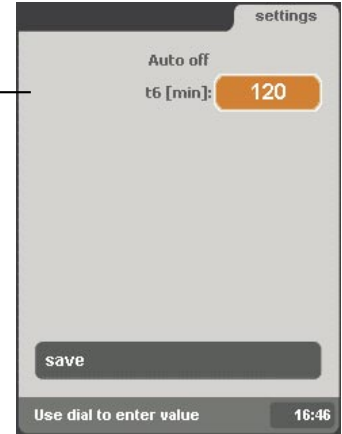
## MANAGER MENU



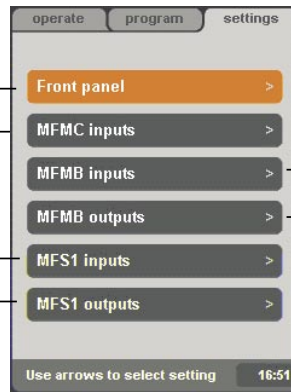
**Note:** all shown values and screens are examples. For parameter settings refer to page 9.

# SERVICE MENU access code 4878

- MULTI - M BAKE - STGi
- 1 .... 10
- YES - NO
- YES - NO



# INPUT / OUTPUT TEST



**FRONTPANEL**  
Allows a function test of all keys.

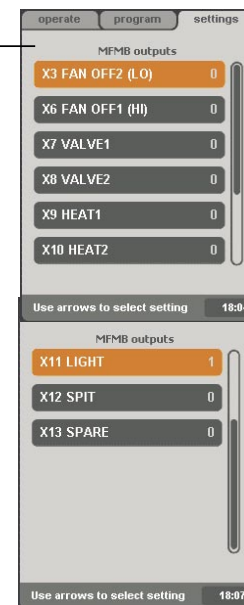
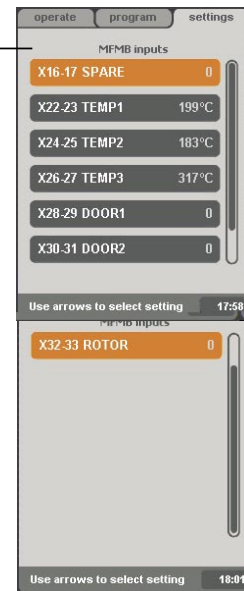
**MFMC INPUTS**  
Shows the electronic board temperature and the dipswitch settings.

**MFMB INPUTS**  
Shows the values of the actual inputs on the "Power and I/O" board.

**MFMB OUTPUTS**  
Allows an output test on the outputs connected to the "Power and I/O" board.

**MFS1 INPUTS**  
Shows the values of the actual inputs on the "Extension I/O" board.

**MFS1 OUTPUTS**  
Allows an output test on the outputs connected to the "Extension" I/O board.





**DEFAULT PARAMETERS**

SETTINGS MENU		Default	Possibilities
Light		on	on - off
Alarm signal		on	on - off
Temperature		°C	°C - °F
Set time		Dutch time	
Set date		Actual date	
Set contrast		75	0...120
Information		softw. version	
Manager --->	<b>MANAGER MENU</b>		
	Change pincode	0000	
	Preheat mode	no	no - 1x - yes
	Preheat delta	0°C	-50°C...+50°C or -0°F...+90°F
	Auto-correct	no	no - time
	Time format	24hr	24hr - am/pm
	Date format	DMY	DMY - MDY
	Set language	English	various
	Irda interface	yes	yes - no
	Nafem option	no	no - "password"
	Pulse times -->	0,5 sec.	0,1...10
		1 sec.	1...10
		0,1 sec.	0,1...1
	Alarm delays -->	1 sec.	1...17
		1 min.	1...60
	Heater delta	0°C	-30°C...+30°C or -4°F...+54°F
Service --->	<b>SERVICE MENU</b>		
	Device type	Multi	Multi - Mbake - STGi
	Correct factor	4x	1...10
	auto off (t6)	120 min.	no...240
	clean times -->	8 min.	0 10
		10 min.	0...30
		30 min.	0...60
		4 min.	0...10
		30 min.	0...60
	Debug RS 232	no	yes - no
	Demo mode	no	yes - no
	I/O test	-	-

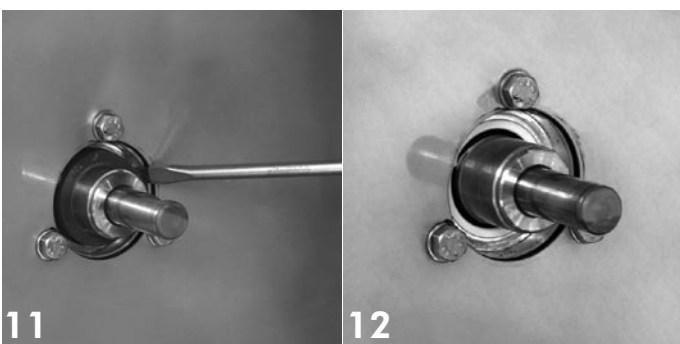
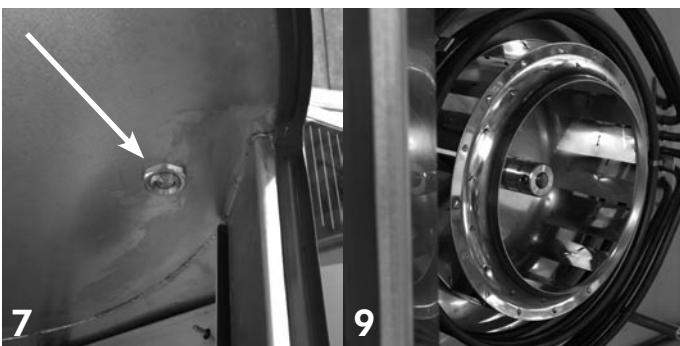
## REMOVAL AND REPLACEMENT OF PARTS FOR THE DELI MULTISSERIE

**WARNING:** Disconnect the electrical power to the machine at the main circuit box. Place a tag on the circuit box indicating the circuit is being serviced.

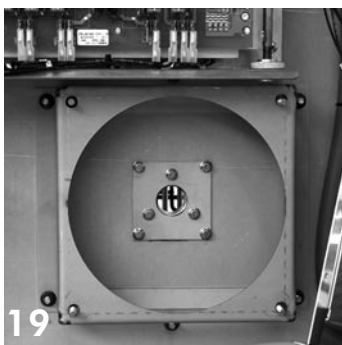
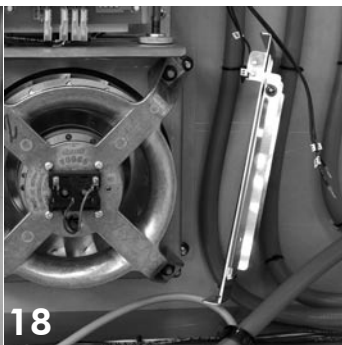
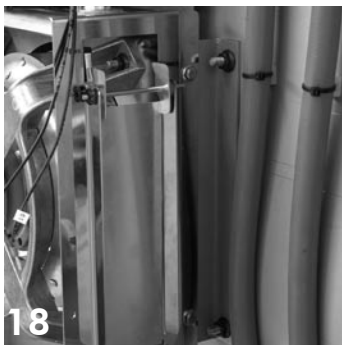
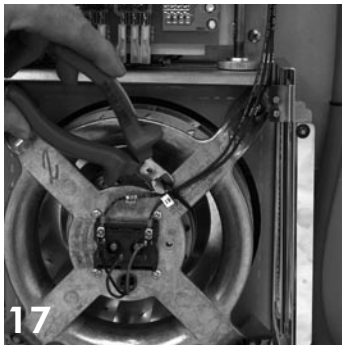
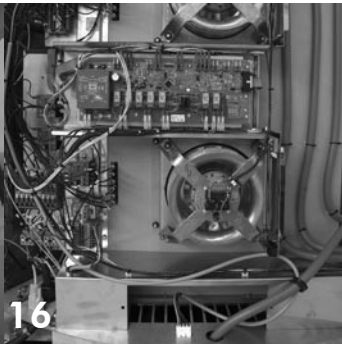
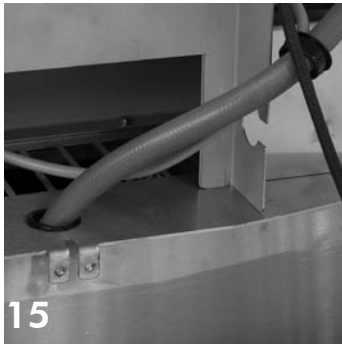
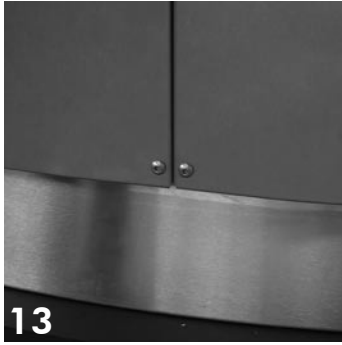
## DISMOUNTING THE VENTILATORS

**Note:** numbers in brackets are positions on the exploded views

1. Remove all chicken racks and/or baskets.
2. Remove the fat filters (105)
3. Remove the filter holder base-plate (118-1) (2 wingnuts M6)
4. Remove the filter holder (118) (2 wingnuts M6)
5. Remove the 4 spacers (117-1).
6. Loosen the upper swivels (129) from the water injection pipe couplings.
7. Remove the nut from the cleaning agent injector (182) and push the injector above the top plate.
8. Remove the ventilator plate. (117)
9. Loosen the socket set-screw from the ventilator blade at least 3 turns.
10. Pull the blade from the shaft. Maybe with help of a (jaw) puller. (see tips)
11. Loosen the socket set-screw (96) and remove the adjusting ring (97).
12. Remove the sealing ring (95).



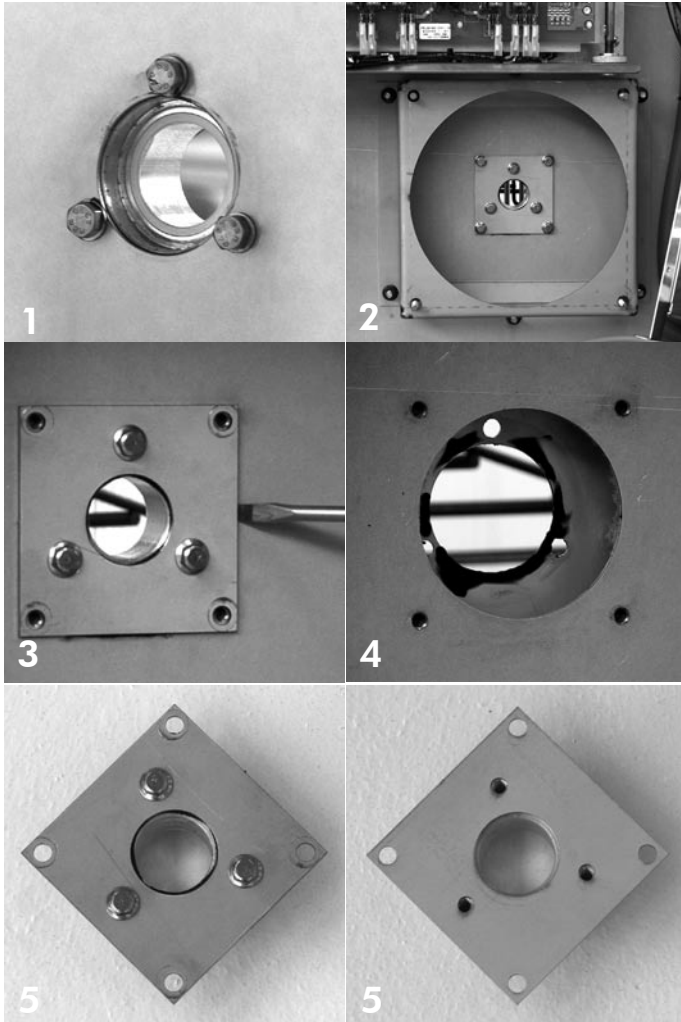
**DISMOUNTING THE VENTILATORS (CONTINUED)**



On the back side:

- 13. Open the 2 service doors. (179)(4 screws).
- 14. Disconnect the 2 capacitors (119) from the ventilator motor(s).
- 15. Take the hose and the electric cable out of the transit hole.
- 16. Remove the vertical air suction channel. (157) (2 nuts M6 en 2x nut/bolt M5)
- 17. Disconnect the wiring from the 2 screw terminals of the ventilator motor(s).
- 18. Remove the vane switch (99) (2x M5 serrated bolt) ???
- 19. Remove the 4 nuts (M6 serrated) from the aluminium motor-housing and carefully take out the ventilator. Repeat this if necessary with the other ventilator.

## DISMOUNTING THE SEATING OF THE SHAFT SEALING RING



**Dismount the ventilator(s) according the procedure above.**

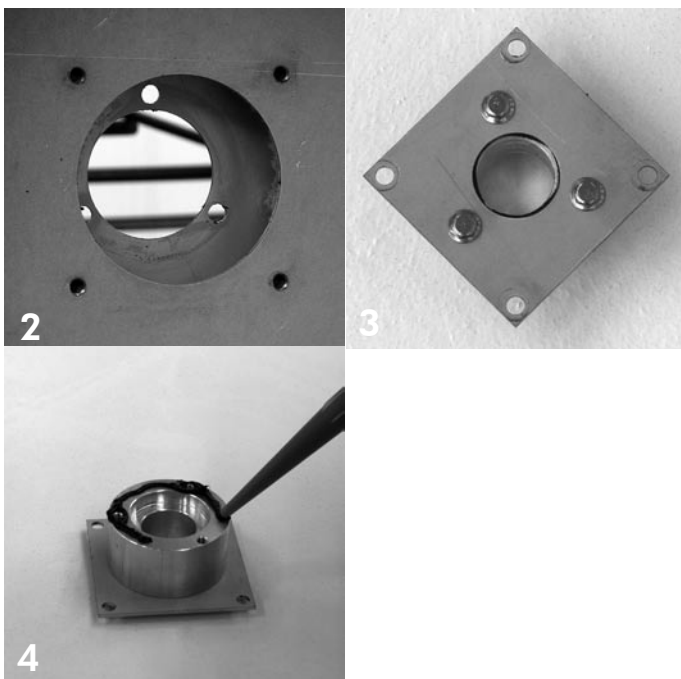
On the inside:

1. Remove the 3 bolts (M5x12).

On the backside:

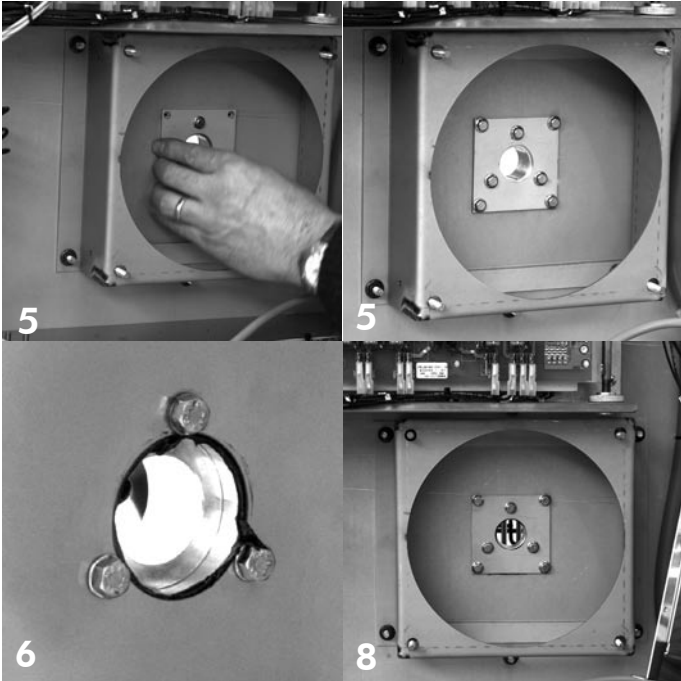
2. Remove the 4 bolts (M5x12) on the edge of the mounting plate. (94).
3. Stab loose the mounting plate with a screw driver (or the like). (The aluminium seating is sealed at the front side with sealant and can possibly stick)
4. Pull the mountingplate with the seating out of the hole.
5. Remove the mounting plate from the seating (3 bolts M5x12).

## MOUNTING THE SEATING OF THE SHAFT SEALING RING



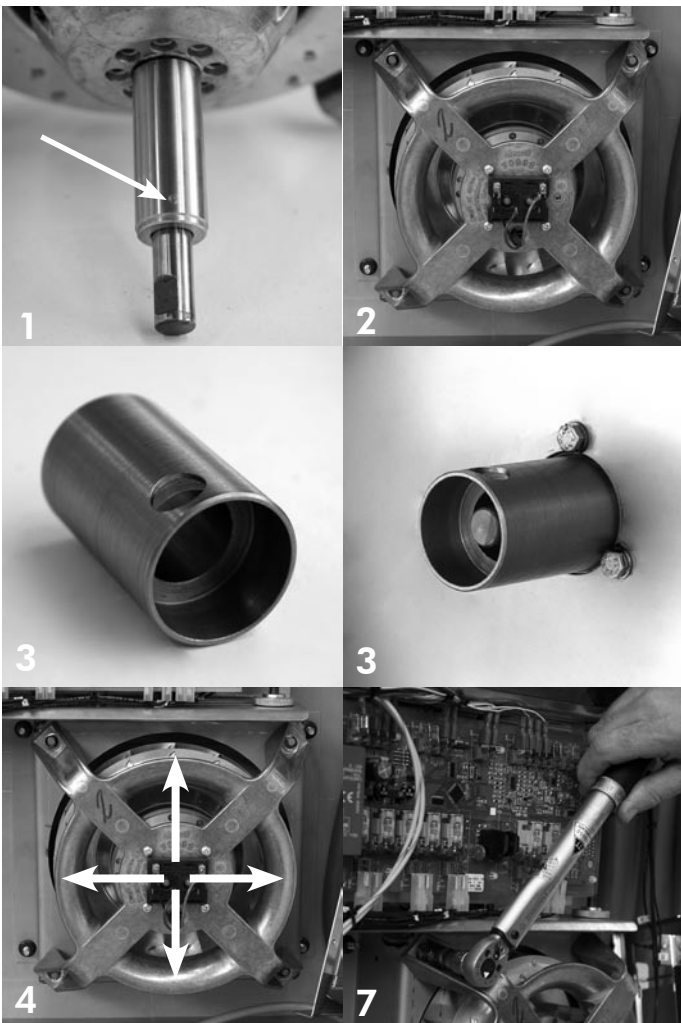
1. Clean and degrease the "old" seating or take a new one.
2. Clean and degrease the contact-surface from the inner oven wall with the seating.
3. Mount the mounting plate half-fastened on the aluminium seating (3 bolts M5x10 serrated).
4. Put a layer of heat resistant sealant (644°F) on the contact-surface of the seating.

## MOUNTING THE SEATING OF THE SHAFT SEALING RING (CONTINUED)



5. Push the seating on its place (1 bolt centre-up !) against the inner oven-wall and mount the 4 bolts half-fastened (M5x10 serrated).
6. Mount the 3 bolts on the inside and fasten them (M5x8 with washer).
7. Remove the redundant sealant with a cloth or the like.
8. Now fasten the 7 bolts at the rear.

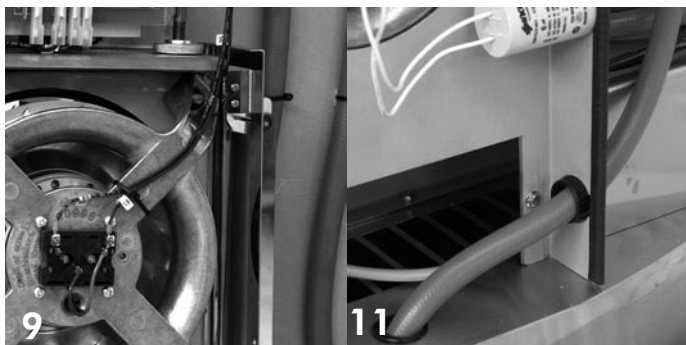
## MOUNTING THE VENTILATORS



1. Carefully file away the damaging on the ventilator shaft caused by the socket set-screw of the adjusting ring.
2. Put the ventilator motor on its position and place the nuts. Not tight!! (M6 serrated black).
3. Slide the mounting accessory on the inside in the aluminum seating with the hollow side outwards.
4. Try to get the ventilator in the middle of the hole by means of little sliding movements.
5. Fasten the nuts a little bit.
6. Remove the mounting accessory.
7. Now fasten the nuts. Torque 9 9/16 lbf.ft
8. Check if the shaft comes through the middle of the hole of the aluminum seating. If not, then the ventilator motor has to be loosened and moved in the right direction.

**Note:** With a new ventilator it could be possible that some holes have to be filed-out in order to get the ventilator in position.

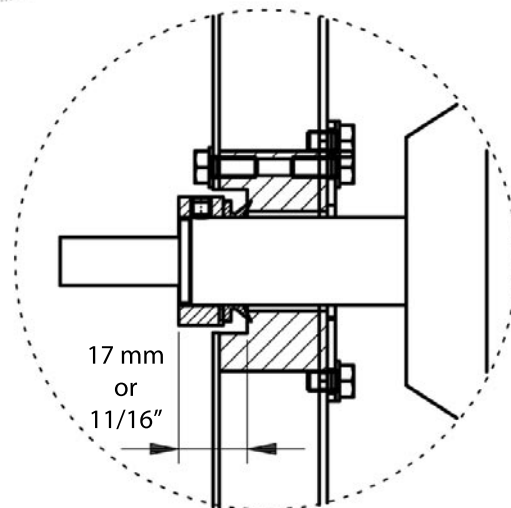
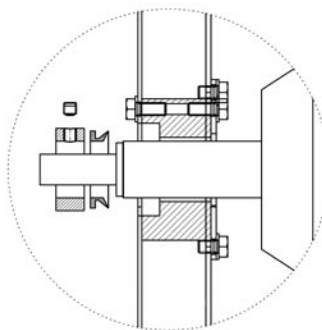
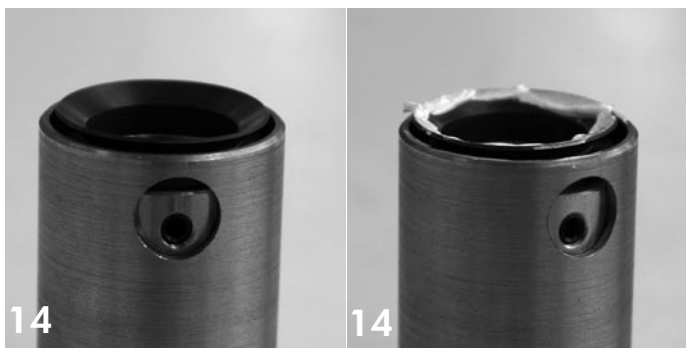
**MOUNTING THE VENTILATORS (CONTINUED)**



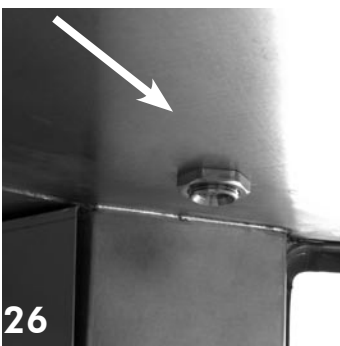
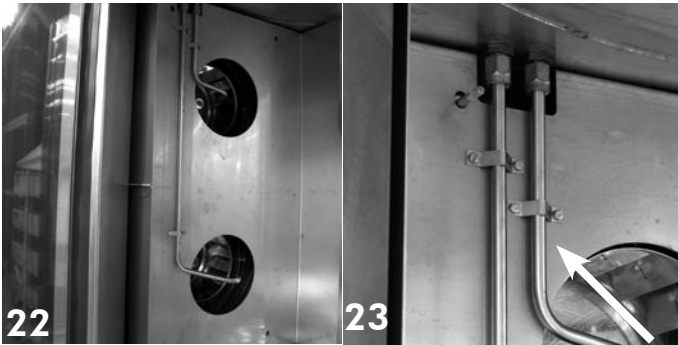
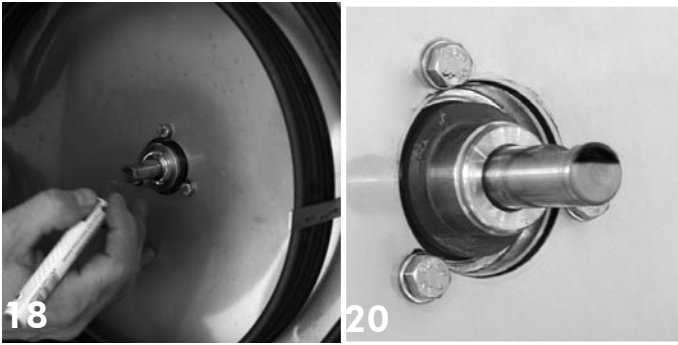
- 9. Connect the wiring to the screw terminals of the ventilator motor and mount a new tyrap.
- 10. Mount the vane switch. (2x bolt M5x10 serrated)
- 11. Mount the vertical air suction channel. Pay attention to the position of the transithole of the waterhose and electrical cord! (2 nuts M6 en 2x nut/bolt M5)
- 12. Connect the capacitor wiring to the ventilator motor.



- On the inside:
- 13. Lay the adjusting ring in the mounting accessory with the set-screw in front of the hole.
  - 14. Lay the shaft sealing-ring on the adjusting-ring in the mounting accessory (see drawing for the right position) and put a layer of (sanitation (FDA) approved) lubricant 9191109.



**MOUNTING THE VENTILATORS (CONTINUED)**



15. Slide the assembly over the ventilator shaft and push the accessory as far as possible to the rear.
16. Fasten the socket set-screw.
17. Measure the distance of the adjusting ring to the tread of the seating with a caliper. This has to be 11/16". See drawing. If not good, than repeat the above.
18. Mark the position of the flat surface of the shaft on the shaft head.
19. Place the blade in such a way that the socket set-screw is positioned square to the flat surface on the shaft.
20. Slowly fasten the set-screw while the centre of the flat surface is surched by moving the ventilator blade with short left/right movements. Slide the ventilator blade as far as possible on the shaft just before the set-screw is completely tight.
21. Fasten the screw.
22. Place the ventilator plate (117).
23. Fasten the swivels of the water injection-pipe couplings. (129) Take care of the distance of the pipes to the ventilator shaft!! 3-5mm
24. Place the 4 spacers and mount the filter holder and filterholder base-plate. (118 and 118-1) (4 wingnuts M6).
25. Place the fat filters (105).
26. Mount the nut from the cleaning agent injector. (182)
27. Put in the chicken rack and/or meatbaskets.

**REPLACING THE SHAFT SEALING RING**

For dismounting, follow point 1 until 12 from "dismounting the ventilators".

Before mounting, clean the aluminum seating if necessary. Carefully file away the damaging on the ventilator shaft caused by the socket set-screw of the adjusting ring.

For mounting, follow point 13 until 27 from "mounting the ventilators"

## REPLACEMENT OF A HEATING ELEMENT

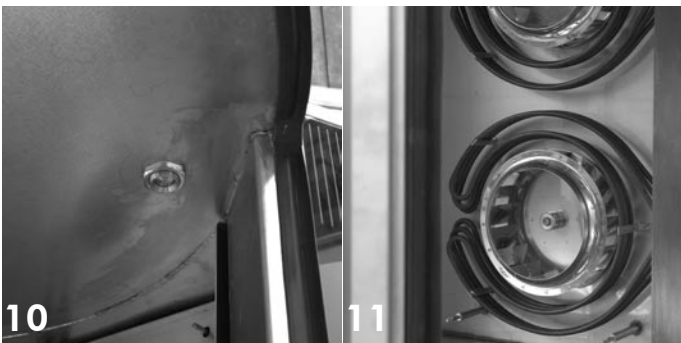
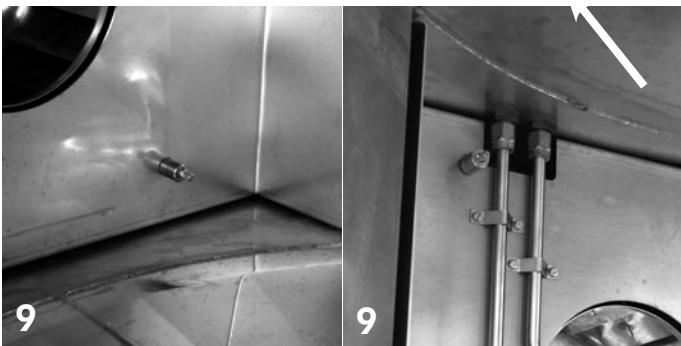
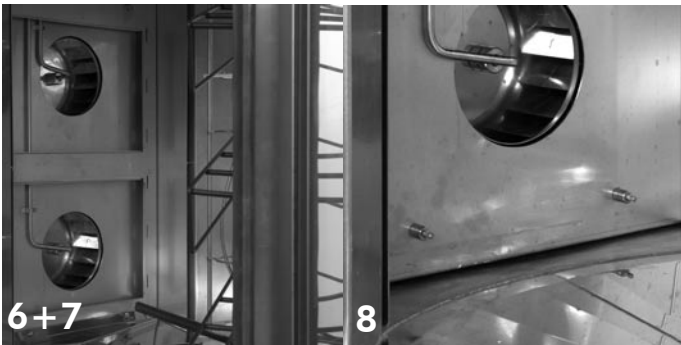


On the backside:

1. Open de left service door.
2. Check the presence of the numbering on the wiring of the heating elements and make a note of this.
3. Pull the 6 wires from the heating element.

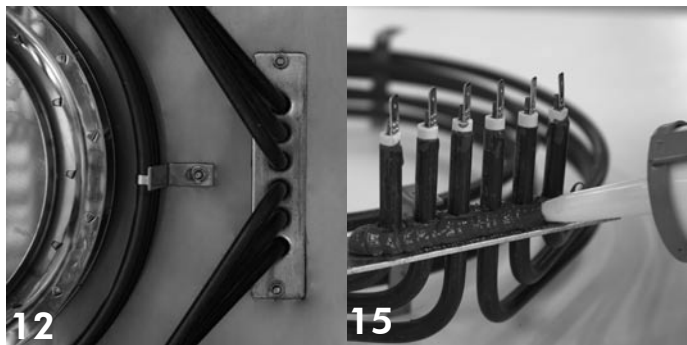
On the innerside:

4. Remove all chicken racks and/or baskets.
5. Remove the fat filters (105)
6. Remove the filter holder base-plate (118-1) (2 wingnuts M6)
7. Remove the filter holder (118) (2 wingnuts M6)
8. Remove the 4 spacers (117-1).
9. Loosen the upper swivels (129) from the water-injection-pipe couplings .
10. Remove the nut from the cleaning agent injector (182) and push the injector above the top plate.
11. Remove the ventilator plate. (117)
12. Unscrew the heating element.





**REPLACEMENT OF A HEATING ELEMENT**



13. Take out the heating element. This could be stuck caused by the sealant used.

14. Clean the back wall.

15. Provide the new heating element amply sufficient of heat resistant sealant (644°F)

16. Put the heating element in the right position over the studs, place the nuts and fasten these (5xM4).

17. Remove the redundant sealant on the inside with a cloth or the like.

18. Place the ventilator plate (117).

19. Fasten the swivels of the water injection-pipe couplings. (129) Take care of the distance of the pipes to the ventilator shaft!! 3-5mm

20. Place the 4 spacers and mount the filter holder and filterholder base-plate. (118 en 118-1) (4 wingnuts M6).

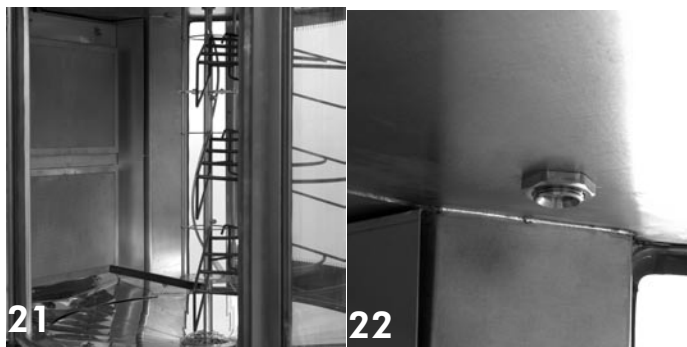
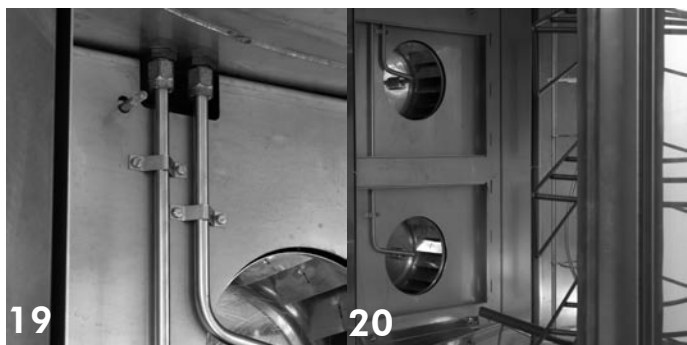
21. Place the fat filters (105).

22. Mount the nut from the cleaning agent injector. (182)

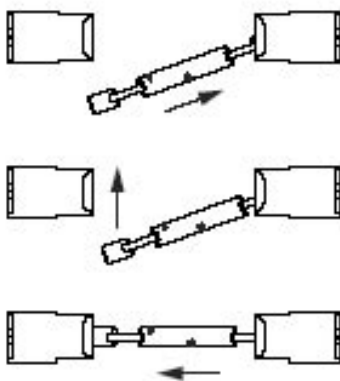
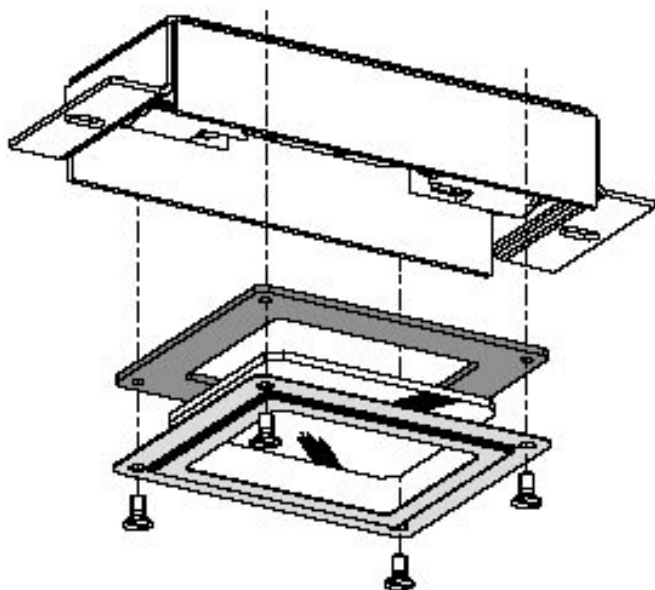
23. Put in the chicken racks and/or meatbaskets.

On the backside:

24. Connect the wiring on the heating elements. Take care that the receptacles are fixed tight.



## REPLACEMENT OF A DEFECTIVE LAMP



**Notice:** Do not touch the lamps with bare hands. Use a clean cloth or paper tissues when replacing the lamp. Remove any moisture with alcohol and methylated spirits after the lamp has cooled down.

1. Remove the plug from the wall socket.
2. Remove the 4 screws from the lamp holder. Beware, the frame, glass and gasket will come off at the same time.
3. Remove the defective lamp. Move the lamp along the length to one side of the lamp holder.
4. Install a new halogen lamp (**120 V – 150 W R7s – 3 1/16"**). First press one side of the lamp into one connection point, then put the lamp properly in its place and have it spring into the other connection point.
5. Make sure the lamp is properly clamped between the two connection points. When it has not been clamped properly, it can be moved back and forth along the length until it clicks into the connection points and is firmly clamped.
6. Install the gasket, glass and frame.
7. Before fastening the screws completely, move the glass to the middle of the frame. It is the intension that the glass corners do not touch the edge.

TROUBLESHOOTING

**GENERAL TROUBLESHOOTING**

Symptom	Possible cause	Caused by	
Product not cooked, cooking takes more time	Air circulation problem	Fanblade loose	
		Adjustment of sealring too tight	
		Blower(s) defect	
		Blower(s) not alligned	
		Capacitor defect	
		Transformer defect	
		Control defect	
		Filters blocked	
	Short of heat	Short of heat	Heating element defect
			Relais defect
			Fane switch defect
			Control defect
			Sensor defect
			Wire loose
	Program ends too soon	Program ends too soon	Core probe defect
			Core probe still hot when starting program
Sliding contact on rotor dirty or defect.			
Cooking program wrong	Cooking program wrong	Wrong programming	
		Wrong product	
Bad cooking results, uneven cooking	No rotation	Chain broken or derailed	
		Motor defect	
		Capacitor defect	
		Control defect	
		Bearing defect	
		Rotor support comes loose	
	Too much heat	Too much heat	Contactora hangs
			Sensor defect
			Core probe shortened
	Too much steam	Too much steam	Watervalue defect
			Dirt in watervalue
	No or too little steam	No or too little steam	Dirt in watervalue
			Waterpressure too low
			Tubes calcified
			Leaking hose
			Control defect
	Program does not reach the end	Program does not reach the end	No heating
			Core probe shortened
			Wrong programming

Symptom	Possible cause	Caused by
Rotation does not stop or stops in wrong position	Detector switch rotor defect	
	Reed contact door shortened	
	Control defect	
Bag overloaded	Watervalue defect (too much steam)	
	Too much steam in program	
Oven cavity fills up	Drain sieve clogged	Valve, relay or control defect
	Drain valve in wrong position	
	Tube clogged by fat from bag	
Sewage get clogged	Drain valve in wrong position	Valve, relay or control defect
Overflow bag	Drain valve in wrong position	Valve, relay or control defect
Less or no lighting	One or more lamps defect	
	Control defect	
	Calcifying or greasing of lamp glasses	
	Broken lamp gasket	
Bad cleaning result	No steam	See bad cooking due to no steam
		Water tap closed
		Filter clogged
	No rinse water	Valve defect
		Control defect
		Hose disconnected
		Water pressure too low (<2bar)
		Water tap closed
	No detergent	Compressor failure
		Nozzle defect
		Air leakage
		Fluid leakage
		Pressure reducer valve defect
Container incorrect connected		
Container empty		
Wrong detergent		
Bad drying	Control defect	
Leakage of steam at the doors or drain	Door not right adjusted	
	Doorgasket damaged	
	Air exhaust valve clogged	
Deterioration of components, rubbers	Wrong detergent	
	Cleaning instructions neglected	
Drip drains clogged	Door not right adjusted	
	Doorgasket damaged	
	Cleaning instructions neglected	

Symptom	Possible cause	Caused by
Controls defect	Leakage of steam through ventilator shaft	
	Leakage of steam through heating element	
	Cooling air flow blocked	
	Fuses blown	

### ANALYTICAL TROUBLESHOOTING

This is an analytic description for servicing and repairing all major parts of the Deli Multiserie. It consists of 4 basic steps to recognize and solve the problems:

1. Symptoms.
2. Possible causes.
3. Solving of the problem: checking/action.
4. Replacing of parts and testing:
  - a. Replacing is described in this service manual.
  - b. For programming and controls see page 5 of this manual.

Description of part	Symptoms	Possible cause	Action
Control defect	Key board fails. No display. Display shows strange things. Outputs fail. Inputs fail.	Loose flatcable. Broken part.	Check keyboard and I/O boards. See I/O test in service menu.
		Fuses blown	Check fuses
		Relais defect	Check relay
		Wrong software or loss of data.	Check software version or upload latest software
		Parameters not on right settings.	Check parameters
		Steam leakage	Check sealing of shaft and heating elements.
		Transformer output voltage too high.	Check transformer.
		Temperature too high.	Check cooling air flow. Clean grids.
Security thermostat	Heating of Multiserie fails	Problem with ventilators. (rotate too slow) Malfunction of vane switches. Sticking contact(s) of contactor(s). Broken thermostat.	Check these items.
Steam leakage	Controller not stable. Programs act strange. Controller switches off during program. Visibility of LCD gets worse.	Leakage of steam through ventilator shaft. Leakage of steam through heating element	Check sealings of these items. (remove ventilator plate pos 117 and the fanblade of the blower)
Cooling air flow	Controller overheated	Cooling air flow blocked.	Clean air grids.

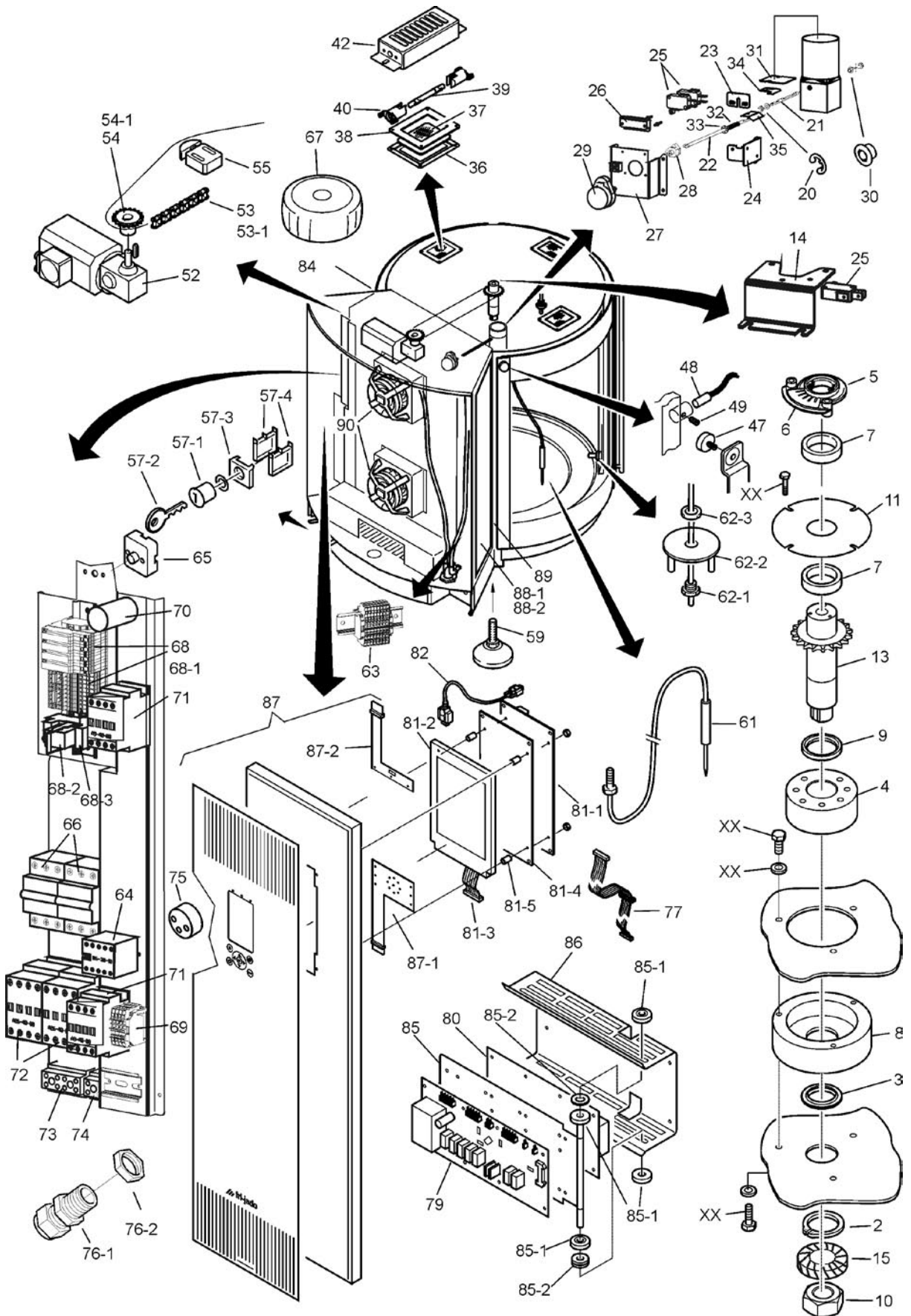
Description of part	Symptoms	Possible cause	Action
Relay for compressor, water filter etc.	The output is not switching on	Broken contact	Replace relay
	The output is not switching off	Contact sticks, relay hangs	Replace relay
Transformer defect	Unable to switch ON the Multisserie. Controller not stable.	Supply voltage too high. Output current too high. Internal short circuit in transformer (gets hot). Interrupted coil.	Check and replace transformer if necessary.
Heating element	Mutisserie does not reach the adjusted temperature. Product not ready in time. Uneven cooking	Heating element defect Wire loose	Check heating element and wiring. Replace if necessary.
Contactor	Product overcooked Uneven cooking Cooking takes more time Product not ready in time	Contactor hangs (contacts stick together) Contacts do not make contact Contactor does not function Controller problem.	Check contactor.  Check controller (output test)
Blower	Cooking takes more time Bad cooking result Uneven cooking Vibrating and/or squeaking noise. Blower rotates too slow.	Fanblade loose Adjustment of sealing too tight Blower shaft stuck by dirt or broken shaft sealing. Blower(s) defect. Blower(s) not aligned Capacitor defect Wiring or controller problem. Transformer broken or wrong connected.	Fix fanblade Check adjustment. Check blower shaft. Check coil resistance. Check coil insulation. Check bearing Check adjustment. Check capacitor Check transformer.
Vane switch	Product not ready in time. Heating elements do not switch on.	Micro switch stays open. Wiring loose. Wing of vaneswitch stuck. Blower rotates too slow.	Remove dirt and/or obstacles from wing. Check wiring and microswitch. Check voltage on ventilator.
	Security thermostat switched off. Fire behind ventilator plate.	Wing of vane switch stuck. Microswitch stays closed.	
Rotor	Rotor does not rotate	Motor defect. Chain broken or derailed. Bearing defect. Capacitor defect. Rotor support comes loose.	Check these items.
Rotor switch	Rotor does not stop, or does not stop in right position.	Detector switch rotor defect	Replace (opto)switch
		Positioning disc displaced	Check adjustment and fix it.

Description of part	Symptoms	Possible cause	Action
Sensor	Temperature read-out on LCD is not stable.	Upper sensor defect. Wire loose.	Check sensor and wiring. See also input test in service menu
	Product over cooked. Cooking takes more time. Uneven cooking.	Upper or lower sensor defect. (resistance too low)	Check sensor and wiring. See also input test in service menu
	Cooking takes more time	Upper or lower sensor defect. (resistance too high).	Check sensor and wiring. See also input test in service menu
	Uneven cooking (difference between lower and higher racks)	Upper or lower sensor defect. Offset parameter not right adjusted. See service menu.	Check sensor and wiring. See also input test and parameters in service menu.
Core sensor	Baking program never ends and product overcooked.	Core Sensor defect (resistance too low)	Replace sensor if wiring is ok.
	Baking program ends too soon	Core sensor defect (resistance too high).	Replace sensor if wiring is ok.
		Customer starts program while core sensor is still hot.	Give instructions how to use.
Sliding contact (on rotor)	Baking program ends too soon	Bad or no contact (resistance too high).	Clean contact or replace.
Illumination	Less display effect	One or more lamps defect Calcifying or greasing of lamp glasses Broken lamp gasket	Replace lamps. Clean or replace lamp glasses. Replace gasket
Air exhaust valve	Steam blows along the door-gaskets. Trumpet sound when closing the door Whistle sound at the exhaust Product too wet Product too dry	Air exhaust valve clogged Air Exhaust valve malfunction	Check and or clean exhaust pipe and valve Check valve motor Check position switches on valve motor
Water valve	Product too dry. Product too wet. Product not well proofed. (Bake version). Cleaning not ok.	Water valve coil defect. Filter clogged. Dirt in water valve. Reducer in water valve clogged. Reducer in water valve not well mounted.	Check coil. Clean valve if possible. Replace valve AND reducer.
Water supply	Product too dry. Product not well proofed. (Bake version). Cleaning not ok.	Water tap closed. Water pressure too low (<2bar). Filters blocked. Kink in hose.	Open tap. Check pressure. Check filters Search for a kink in the hose.

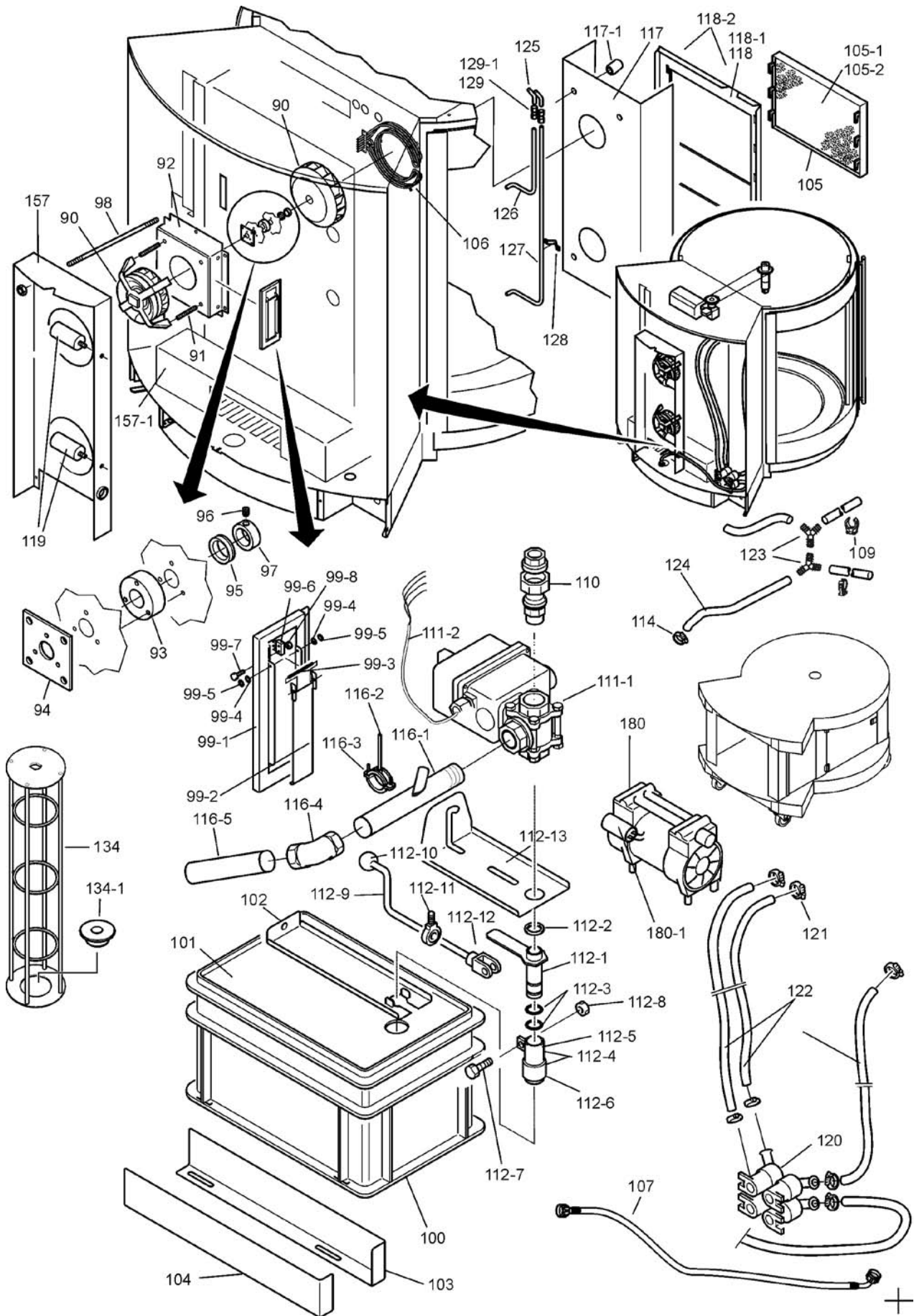
Description of part	Symptoms	Possible cause	Action
Tubes calcified	Product too dry. Product not well proofed. (Bake version)	Supply water not decalcified. Decalcifying equipment not ok. Decalcifying filter saturated.	Check water hardness.  Change filter.
Door switch	Message door open appears while door is closed	Reed contact door shorted. Wiring shorted.	Check reed contact and/or wiring. Replace if necessary
	Blowers, heaters and rotor stay on while door is opened.	Reed contact defect. Wiring loose.	Check reed contact and/or wiring. Replace if necessary
Door	Door(s) are leaking.	Door not right adjusted	Adjust door.
	Door does not close smoothly	Door not right adjusted	Adjust door.
	Door lock not functioning	Doorlock broken or loose	Mount new parts and or fasten it.
	Broken glass of inside or outside door.	Slamming of door.	Give instruction to operator
		Fastenings bolts and nuts are loose.	Tighten all fastenings.
		No sealing ring between steel and glass.	Mount new glass with sealing rings between steel and glass.
Door gasket	Door(s) are leaking	Deterioration by (wrong) cleaning agent. Cleaning instructions neglected. Broken due to bumping, striking.	Give instructions
Compressor	Bad cleaning result	Compressor does not start or stops while power is on. Compressor does not give enough pressure. Controller problem.	Check power supply, capacitor, coil resistance, coil insulation. Check membrane and leakage of air hoses.
Pressure reducer valve	Bad cleaning result	Pressure valve adjusted on too low pressure Pressure valve defect	Replace and/or adjust pressure valve
	Bottle with cleaning agent broken Too much use of cleaning agent	Pressure valve adjusted on too high pressure Pressure valve defect	Replace and/or adjust pressure valve
Air controlled nozzle	Bad cleaning result	Nozzle leaks air. Nozzle does not open Nozzle leaks fluid.	Check nozzle.



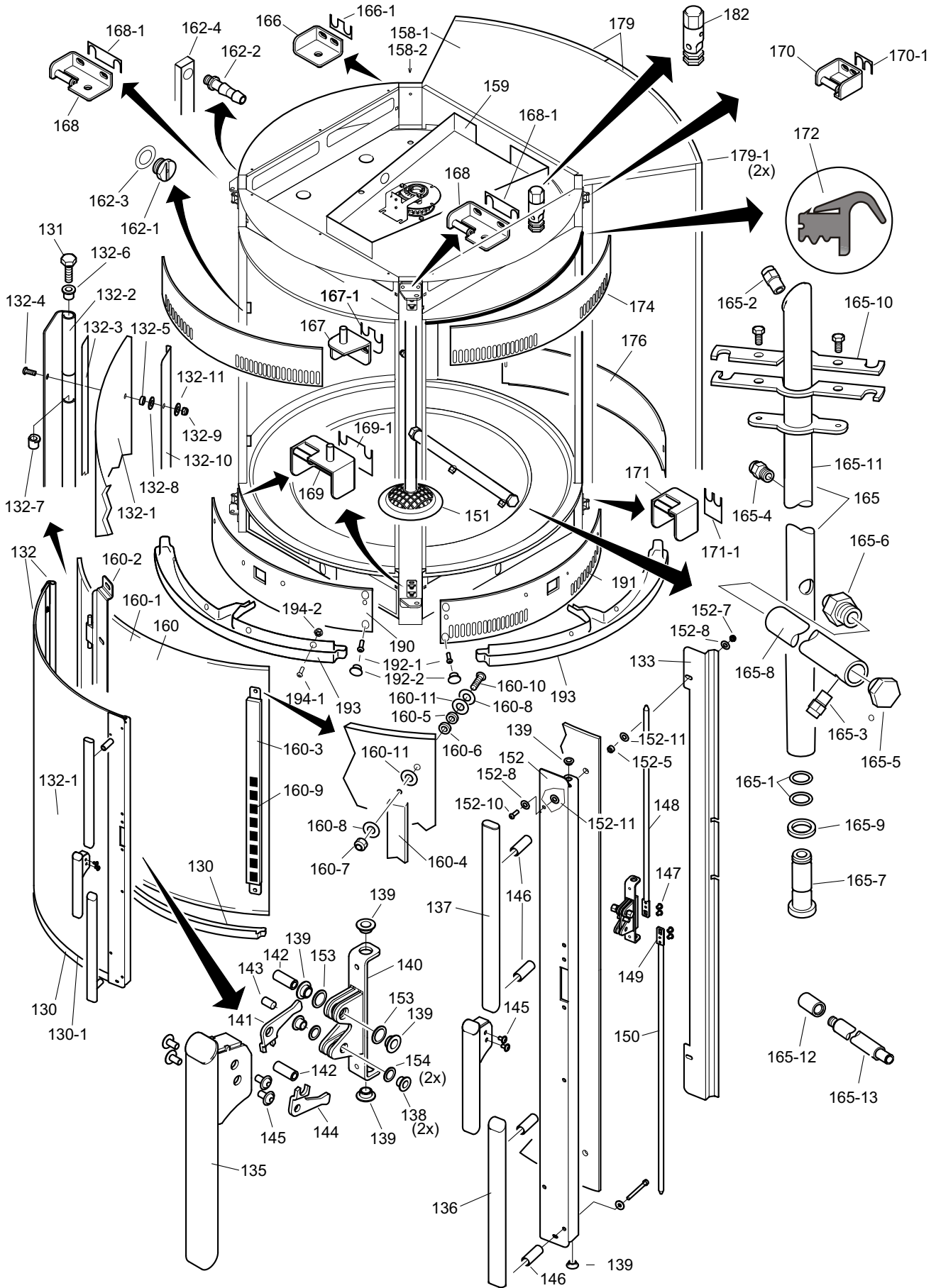
EXPLODED VIEWS & PARTLISTS



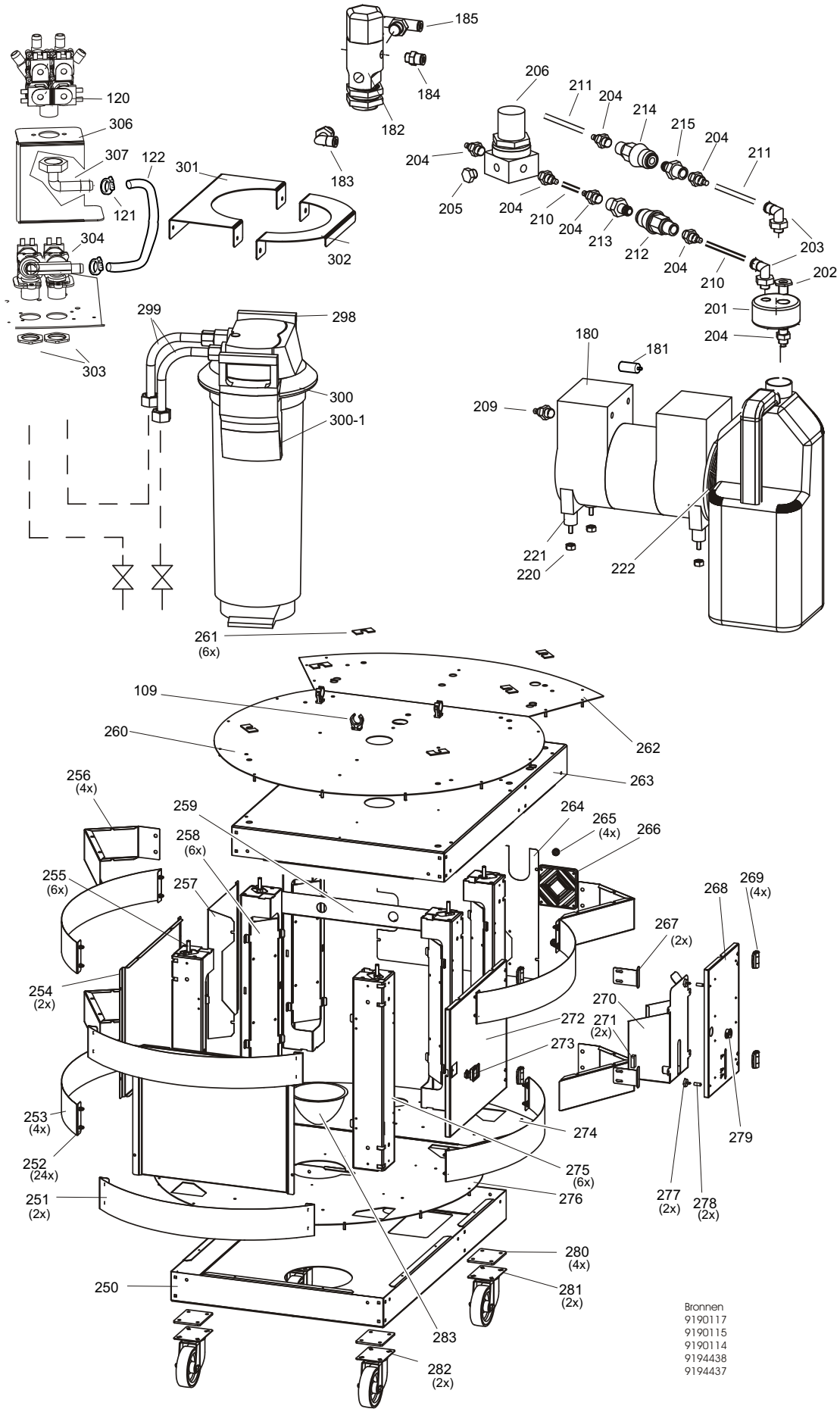
Deli Multisserie - electrical components



Deli Multisserie - Ventilator assembly



Deli Multisserie - Sheet Iron Work



Deli Multiserie - underframe

Pos.nr.	Amount	Part number	Description
2	1	9191045	Clip ring 30 mm
3	1	9192012	Seal ring
4	1	9192017	Ball bearing
5	1	9192018	Sliding ring
6	1	9192019	Sliding contact
7	2	9192242	Spacing bush 9mm
8	1	9192048	Bearing block
9	1	9192053	Distance ring 40 mm
10	1	9192075	Nut, M22 x 1,5 stainless steel
11	1	9194448	Positioning disc
13	1	9190412	Shaft, chain wheel, ass.
14	1	9194445	Bracket, position switch
15	1	9191126	Lock washer M22
20	2	9191041	Spring clip
21	1	9193100	Valve mechanism, short
22	1	9190510	Valve mechanism, long
23	1	9194328	Fastening plate
24	1	9194473	Bracket
25	3	3500109	End switch
26	1	9194472	Mounting plate, end switch
27	1	9194477	Bracket
28	1	9193101	Camshaft
29	1	9191198	Gearmotor
30	2	9191085	Plastic bearing
31	1	9194474	Valve
32	1	3500106	Spring
33	1	4285151	starlock washer, 6mm
34	1	9194476	lever
35		9194488	gripper plate
36	3	9194485	Cover profile, oven illumination
37	3	3500038	Glass, oven illumination
38	3	3500040	Sealing, oven illumination
39	3	9191196	Lamp, Halogen 150 W 120V
40	6	9052826	Lamp holder, halotherm
42	3	9194294	Cover
47	3	9084077	Magnet
48	3	3500020	Reed switch
49	3	9191049	Screw, adjusting M5x5
52	1	9190126	Gearmotor with chain-wheel
52	1	9191193	Gearmotor
53	1	9192014	Chain 3/8 x 7/32
53-1	1	9192015	Link for chain 3/8x7/32
54	1	9192235	Chain wheel
54-1	1		Clamp pin
55	1	9150145	Chain stretcher
57-1	1	9111180	Key + emergency switch
57-2			Key, emergency switch
57-3	1	9111190	Adapter, emergency switch

Pos.nr.	Amount	Part number	Description
57-4	2	9111200	Contact, emergency switch
59	6	9192063	Leg, adjustable
61	1	9192005	Core temperature probe
62-1	2	9192158	Temperature probe
62-2	2	9194382	Protection PT1000 probe
62-3	2	3704133	Nut 1/4"
63	1	9192243	Connecting terminal
64	1	9191181	Relay B6-30-10
65	1	9191188	Thermostat with reset, 360°C
66	2	9191206	Automatic fuse S203 B40
67	1	9192227	Transformer, blower
68	1	9192237	Connecting terminal, large (incl relay 75)
68-1		9191197	Fuse 10 A slow
68-2	2		Relay
68-3	2		Relay socket PYF
69		9192241	Connecting terminal small
70	1	9077101	Capacitor 2,5 uF
71	4	3500069	Contact A9-40-00
72	1	9191207	Contact A26-40-00
73	1	9191204	Connecting block, 1,2,3,4
74	1	9191205	Connecting block, 5,6,7
75	1	9191201	Socket for compressor
76-1	1	9192420	Cable gland, M32
76-2	1	3701068	Nut, M32
77	1	9192204	Flatcable, power sections
79	1	9192202	Power & I/O board
80	1	9192203	Extension I/O board
81	1	9172317	CPU + LCD + cable
81-1	1	9172315	CPU board
81-2	1	9172312	LCD display
81-3	1		Cable + ferrite
81-4	1		Shielding plate
81-5	4		Distance bush
82	1	9191101	Extension cable RS232
84	1	9194085	Cover plate right side
85	1	9190503	Mounting plate I/O boards
85-1	4	9040918	Nut with milled edge
85-2	3	9073987	Washer M8x24
86	1	9194397	Mounting profile I/O boards
87	1	9190129	Control panel ass.
87-1	4	9172318	Keypad, 15 key
87-2	1	9172313	Keypad, 3 keys
88	1	9190130	Name panel ass.
88-1	1	9194028	Name panel
88-2	1	9194028	Mounting plate name panel
89	1	9194084	Cover plate left side

Pos.nr.	Amount	Part number	Description
90	2	9192225	Blower
91	8	9193043	Threaded end M6 x 90
92	2	9194035	Fastening profile
92-1	2	9194096	Support profile blower (not in drawing)
92-2	4	9194417	Strengthening strip (not drawn)
93	2	9192043	Seating, shaft sealing
94	2	9194022	Cover plate
95	2	9192013	Sealing ring
96	2	9191049	Socket set-screw M5x5
97	2	9192083	Adjusting ring
98	2	9193042	Studding M6 x 180
99	2		Assembly, Rotation detection.
99-1	2	9194412	Base, vane switch
99-2	2	9194392	Swing, vane switch
99-3	2	9193088	Axle, vane switch
99-4	4	0188750	Nylon Washer 4,3x9x1,4
99-5	4	9191130	Starlock clamp washer
99-6	2	9191217	End switch
99-7	2	0147016	Screw M2,5x10, SS slotted pan head
99-8	2	0142293	Nut M2,5, SS hexagonal
100	1	9191149	Grease container
101	1	9191173	Cover grease container
102	1	9194424	Fixation plate fat bag
103	1	9194418	Support left, grease container
104	1	9194419	Support right, grease container
105	2	9190048	Filter, assembly
105-1	6	9194287	Filter gauze, vertical
105-2	6	9194288	Filter gauze, horizontale
106	2	9192091	Heating element, 10KW 208V
107	1	9191203	Water supply hose
109	4	9191142	Hose mounting clip 28mm
110	1	9191079	Joint 1"
111	1		Valve incl. cable
111-1	1	9191092	Valve, 3-way
111-2	1	7800443	Cable, 4 core
112	1		Assembly, grease drain pipe
112-1	1	9190505	Inner sliding pipe grease drain
112-2	3	9194431	Filler ring
112-3	2	9191148	O-ring 22mm
112-4	1	9190109	Assembly outer sliding pipe
112-5	1	9190506	Outer sliding pipe
112-6	1	9192215	Cone, outer sliding pipe
112-7	1	0196673	Bolt, M8x25 zink plated
112-8	1	9008047	Nut, M8 zink plated
112-9	1	9192216	Locking bar
112-10	1	6791000	Knob
112-11	1	3701100	Bearing block
112-12		9191147	Gaff
112-13	1	9194423	Bracket, locking bar

Pos.nr.	Amount	Part number	Description
114	1	6000032	Clamp, tube 26-38
116-1	1	9190508	Drain pipe grease, long
116-2	1	9193086	Studding M8x170
116-3	1	2650217	Suspension clip
116-4	1	3500052	Clamp knee 35mm
116-5	1	9192197	Drain pipe grease, short
117	1	9190403	Fan plate
117-1	4	9193095	Distance bush Ø14x6,5 L24
118	1	9190457	Filter support
118-1	1	9194426	Footplate filter support
118-2	1	9073149	Wing nut, M6
119	2	9192034	Capacitor 6 uF
120	1	9191200	Valve (quadruple) 110-127V60Hz
121	8	9192039	Clamp, tube 13-20
122	7,5mtr	3500049	Tube 9,5 x 16
123	2	9191141	Y-splitter
124	1,6mtr	9191145	Hose, dripwater 19x29
125	2	9193065	Tube, water injection
126	1	9193063	Tube, upper water injection
127	1	9193064	Tube, lower water injection
128	3	9194312	Bracket
129	2	3500048	Joint
129-1	4	3500144	Clamp ring
130	3	9190511	Drip tray door, ass.
130-1	3	9192155	Finishing strip, rubber
131	3	9192042	Hinge pin
132	3	9190068	Glass, outer incl. hinge profile
132	3	9190102	Glass, outer ass. complete
132-1	3	9192003	Glass, outer
132-2	3	9194411	Hinge profile
132-3	...mtr	4302141	Tape 20 x 0,8
132-4	12		Screw M5 x 16
132-5	12	4289966	Distance ring, outerglass
132-6	6	9172054	Brass bearing 8 mm
132-7	6	9172122	Brass bearing 8 mm, adjusted
132-8	18	9174162	Seal ring 15x7x0,5mm
132-9	12	0144359	Nut, self locking M5
132-10	3	9194046	Mounting profile, hinge side
132-11	12	0142103	Washer M5
133	3	9194406	Fastening, door handle
134	1	9190400	Holder, baskets
134-1	1	9192092	Teflon bearing
135	3	9190459	Door handle, middle
136	3	9190460	Door handle, bottom
137	3	9190461	Door handle, top
138	6	9191085	Bearing 6 mm
139	18	9191102	Bearing 8 mm
140	3	9190458	Hinge profile
141	3	9194306	Hook, top

Pos.nr.	Amount	Part number	Description
142	6	9191103	Threaded bush M5 x 20
143	3	9193061	Pin
144	3	9194307	Hook, bottom
145	12		Screw M5 x 10
146	12	9193059	Spacing bush
147	12	4280215	Screw M5 x 8, SS Cross recess pan head
148	3	9193051	Bar, top
149	6	9194269	Hook, door latch
150	3	9193052	Bar, bottom
151	1	9190429	Drain riddle
152	3	9194265	Profile, door latch
152-5	12	4289966	Distance bush
152-7	12	0144359	Selflocking nut M5
152-8	24	0142103	Washer M5
152-10	12		Screw M5x16
152-11	24	9174162	Filling ring 15x7x0,5mm
153	6	9194356	Filling ring handle 15x10,3x1,5
154	6	9194357	Filling ring handle 12x8,3x1,6
157	1	9194023	Air channel blowers
157-1	1	9194024	Lower air channel blowers
158-1	1	9194013	Rear top plate
158-2	1	9194007	Centre top plate
159	1	9194016	Chain box
160	3		Inner glass, ass. excl drip tray
160-1	3	9192239	Glass, inner
160-2	3	9190512	Hinge profile
160-3	3	9194496	Holder, magnet
160-4	3	9194116	Profile
160-5	12	3704516	Distance ring, innerglass 2 mm
160-6	12	9174163	Distance ring, innerglass 3 mm
160-7	12	0144359	Nut, self locking M5
160-8	24	0142103	Washer M5
160-9	24	9070141	Magnet block
160-10	12		Screw M5 x 16
160-11	24	9174162	Seal ring 15x7x0,5mm
162-1	3	9191089	Sprayer, door post
162-2	1	9192068	Hose pillar
162-3	3	9193070	Seal ring, teflon
162-4	1	9190498	Spray tube side post
165	1	...	Spraysytem, middle, ass.
165-1	2	9191082	O-ring 22 mm
165-2	1	9191086	Sprayer, top
165-3	2	9191087	Sprayer, bottom
165-4	2	9191088	Sprayer, middle
165-5	1	9191090	Plug 3/8" SS
165-6	1	9191091	Nipple adapter 3/8 - 1/4"
165-7	1	9192084	Joint
165-8	1	9192161	Spray tube

Pos.nr.	Amount	Part number	Description
165-9	1	9193069	Seal ring, teflon
165-10	2	9194320	Clamping plate
165-11	1	9190463	Spray tube, vertical
165-12	1	9191118	Sleeve female 1/4"
165-13	1	9191117	Hose pillar, long 1/4"
166	1	9194204	Hinge (angle), left top
166-1	2	9194247	Filling plate, left top
167	1	9190424	Hinge (angle), left bottom
167-1	2	9194245	Filling plate, left bottom
168	2	9190494	Hinge (angle), middle top
168-1	4	9194248	Filling plate, middle top
169	2	9190495	Hinge (angle), middle bottom
169-1	4	9194246	Filling plate, middle bottom
170	1	9190496	Hinge (angle), right top
170-1	2	9194235	Filling plate, right top
171	1	9190497	Hinge (angle), right bottom
171-1	2	9194236	Filling plate, right bottom
172	3	9192240	Rubber profile
174	3	9194100	Cover plate, top
176	1	9194026	Cover plate, backside
179	2	9190413	Door, electrical compartment
179-1	2	9192049	Hinge axle service door
180	1	9191202	Compressor
180-1	1		Capacitor
182	1	9191153	Air controlled nozzle
183	1	9191177	Elbow adaptor SS 1/4"x 6mm
184	1	9191183	Straight adaptor 1/8"x 6mm BNP
185	2	9191158	Branch tee adapter 1/4"x 6mm BNP
186		9194464	Mounting bracket Compressor
187	1	9194492	Cover compressor
190	1	9194401	Cover plate, lower-centre
191	2	9194402	Cover plate lower-side
192-1	12	4280218	Screw M5x45, SS Cross recess pan head
192-2	12	2005250	Finishing plug
193	3	9192200	Drip tray
194-1	12	4280216	Screw M5x10, SS Cross recess pan head
194-2	12	0144359	Nut M5, SS self locking hexagonal
201	1	9192220	Cap for bottle
202	1	9191169	Nipple adapter SS for bottle cap
203	2	9191184	Elbow adaptor SS 1/8"x 6mm, revolving
204	7	9191171	Straight adaptor 1/8"x 1/8" clamp
205	1	9191185	Plug 1/8" BNP
206	1	9192249	Pressure regulator ass. 250mBar
206-1	1	9191186	Pressure regulator valve 250mBar
207	1	9192248	Pressure regulator ass. 2,5 Bar
209	1	9192247	Straight adaptor 1/4"x 6mm BNP
210		9191178	Hose blue 6mm

Pos.nr.	Amount	Part number	Description
211	4m	9191157	Hose teflon 6.0mm
212	1	9191179	Q.C. female coupling 1/8"female black
213	1	9191180	Q.C. male coupling 1/8"male black
214	1	9191166	Q.C. female coupling 1/8"female transp.
215	1	9191167	Q.C. male coupling 1/8"male transp.
220	4	4285078	Nut 1/4" bsw ZP
221	4	9191156	Vibration absorber
222	1	9191174	Grid for compressor
230			
231			
250	1	9194250	Underframe
251	2	9194257	Front cover, curved
252	24	4313049	Clamp
253	4	9194256	Side cover, curved
254	2	9194347	Panel
255	6	9193083	Studding M10x50
256	4	9194255	Corner cover
257	1	9194258	Panel, side-rear
258	6	9194340	Cover, post
259	1	9194466	Bracket, pressure regulator valve
260	1	9194278	Top plate, front
261	6	9194264	Adjusting plate
262	1	9194279	Top plate, rear
263	1	9194251	Top frame
264	1	9194436	Panel, rear
265	4	9191176	Serrated nut M5x10
266	1	9191124	Filter
267	2	9194446	Stop bracket
268	1	9194432	Door, right
268	1	9194456	Door, left (in case left controlled)
269	4	9191106	Hinge
270	1	9194434	Bottle holder
271	2	9191182	Magnet 36x15x11
272	1	9194331	Door, underframe
273	1	9191107	Doorlock
274	1	9194253	Bottomplate, rear
275	6	9194254	Post
276	1	9194252	Bottomplate, front
277	2	9084077	Magnet, closing
278	2	9191103	Connecting nut M5x20
279	1	9070840	Grommet 15mm
280	4	9194455	Base plate, castors
281	2	9191104	Castor
282	2	9191105	Castor with brake
283	1	9191213	Drip tray
298	1	9191133	Descaling filter head with display 300/600
299	1	9191134	Descaling filter hoses 3/4"-3/4" + 1"-3/4"

Pos.nr.	Amount	Part number	Description
300	1	9191132	Descaling filter housing + cartridge
300-1		9191135	Descaling filter cartridge 600
301	1	9194437	Wallbracket for descaling filter
302	1	9194438	Wallbracket contra
303	2	9194457	Nut, 3/4"
304	1	9191199	Water valve 2xin, 1xout 110-127V60Hz
306	1	9194483	Bracket valve construction
307	1	9181023	Hose pillar 12"-90° -3/4" gland
FASTNERS			
Pos.nr.	Amount	Part number	Description
	2	4280205	Bolt M16x25, SS hexagon head
	7	4288231	Bolt M5x10, SS hexagon serrated low head
	6	0211520	Bolt M5x12, SS hexagon head
	20	4312069	Bolt M5x12, ZP hexagon head
	3	9008178	Bolt M5x8, SS hexagon head
		4280110	Bolt M6x20, SS hexagon head
		9191041	Circlips, E type for 5mm slot
	4	9191142	Hose mounting clip 28mm
	1	9191126	Lockwasher M22, serrated
		0142030	Lockwasher M5, vaulted SS
		4289363	Lockwasher M6, ZP
	2	4280207	Nut M16, ZP hexagonal
	3	0142292	Nut M3, SS hexagonal
	1	0142315	Nut M5, SS hexagonal
	36	0144359	Nut M5, SS self locking hexagonal
		0141521	Nut M6, SS hexagonal
	4	9073149	Nut M6, SS wing
	4	9040918	Nut M8, ZP serrated
	1	0167519	Nut, Strain relief PG21
		6802013	Nut, threaded insert M5 ZP
		4285126	Nut, threaded insert M6 ZP
		4312352	Pop rivet 4x8,5, range 4,8
	3	0141050	Screw M3x10, SS Cross recess pan head
	2	0141075	Screw M3x16, SS Cross recess pan head
	2	0147015	Screw M3x25, SS slotted pan head
	12	4287540	Screw M4x10, BNP
	6	0141084	Screw M4x10, Cross recess pan head
		4280216	Screw M5x10, SS Cross recess pan head
	2	0141165	Screw M5x25, SS Cross recess pan head
		0147153	Screw M5x30, SS slotted pan head
		4280218	Screw M5x45, SS Cross recess pan head
	36	4288320	Screw M5x45, SS slotted pan head
	15	2008614	Sokkel TC 823 ty-rap
	24	4289966	Spacer 5,2x10x6 polystyrene



Pos.nr.	Amount	Part number	Description
		4280566	Studding M6, 1 mtr. SS
		4281022	Studding M6, 1 mtr. ZP
		4281030	Studding M8, 1 mtr. ZP
		9193085	Studding M8x170
		9192071	Washer 10x14mm, copper
		9194348	Washer 20x6,4mm, SS
	12	9174680	Washer 5,2x20x3, SS
	4	0188750	Washer 9x4,3x1,4
	2	0197328	Washer M16, ZP plain
	24	4311110	Washer M5, SS D=3d plain
	2	0142103	Washer M5, SS plain
	20	4287523	Washer M5, ZP plain
	3	9073987	Washer M8, SS D=3d plain

## FASTNERS MENTIONED IN DRAWING

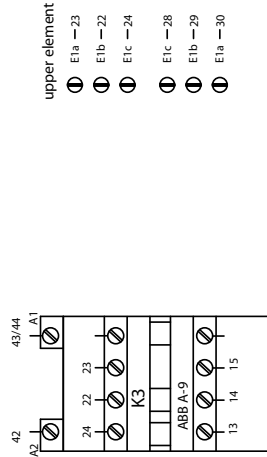
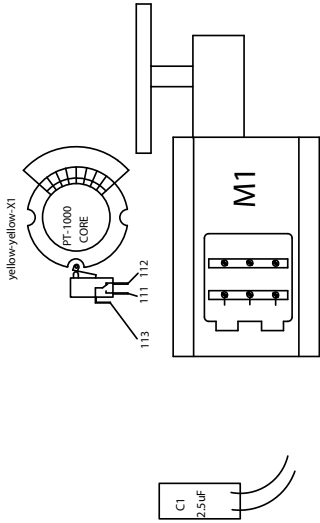
Pos.nr.	Amount	Part number	Description
112-7	1	0196673	Bolt, M8x25 ZP
160-5	12	3704516	Distance ring, innerglass 2 mm blue
160-6	12	9174163	Distance ring, innerglass 3 mm
220	4	4285078	Nut 1/4" bsw ZP
99-8	4	0142293	Nut M2,5, SS hexagonal
112-8	1	9008047	Nut, M8 ZP
99-4	4	0188750	Nylon Washer 4,3x9x1,4
99-7	4	0147016	Screw M2,5x10, SS slotted pan head
147	12	4280215	Screw M5 x 8, SS Cross recess pan head
194-1	12	4280216	Screw M5x10, SS Cross recess pan head
192-1	12	4280218	Screw M5x45, SS Cross recess pan head
132-8	18	9174162	Seal ring 15x7x0,5mm blue
152-11	24	9174162	Seal ring 15x7x0,5mm blue
160-11	24	9174162	Seal ring 15x7x0,5mm blue
96	2	9191049	Socket set-screw M5x5
99-5	4	9191130	Washer 3mm starlock, push on retaining
132-11	12	0142103	Washer M5

## MISCELLANEOUS

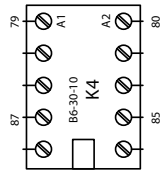
Pos.nr.	Amount	Part number	Description
		9191154	Cleaning fluid 5l
		9191210	Feather key 5x5x20 DIN6885A
		9191150	Grease bag 10 Ltr
		9190073	Handle lock
		9193091	Lock bushing for transport
		9191109	Lubricant OKS 250Moly P1900 - 400 gr.
		9074129	Oven gloves, not printed
		9191136	Pipe brush
		9191146	Pipe brush little
		3500306	Sealant silicon red 343°C
		4302335	Sealant silicon, aluminum 450°F
		9061045	Silicon spray Eurogrill 0,4ltr

Pos.nr.	Amount	Part number	Description
		2650536	Sound absorbing material, self-adhesive
		9191187	Spiral protecting conduit Ø6.4mm
		9191211	Spiral protecting conduit Ø8mm
		4302170	Spiral protecting conduit PE 1/4"
		9123523	Sticker Backflow USA
		9110111	Sticker caution hot
		9123148	Sticker high temperature
		9123516	Sticker ON-OFF USA
		9110860	Sticker ventilator
		9123389	Sticker Warning California
		9123484	Sticker warning replacing lamps
		9123456	Sticker Warning secure to building
		9123672	Sticker Warning USA
		9123527	Sticker, place cleaner
		9171110	Terminal block, 2 pole porcelain
		9123517	Wiring instruction plate Multisserie
			USED SHORT FORMS
			SS = stainless steel
			ZP = zink plated
			BNP = brass, nickel plated
			Q.C. = Quick connect

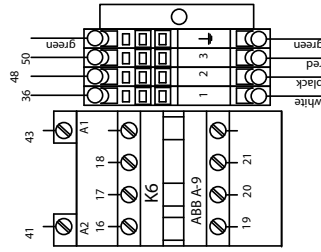
# ELECTRICAL DIAGRAMS



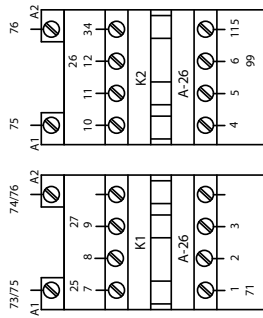
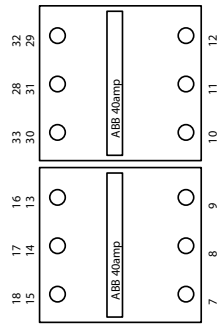
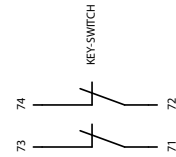
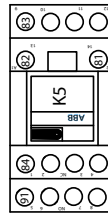
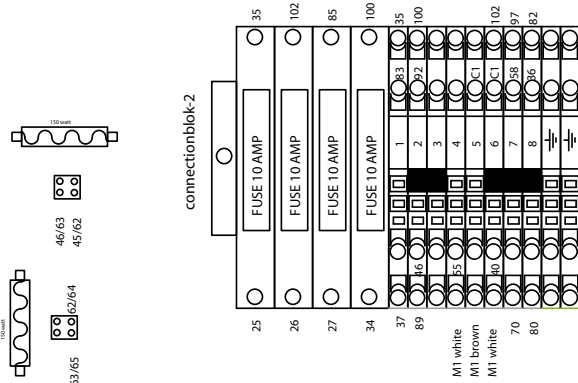
- upper element
- ⊕ E1a — 23
  - ⊕ E1b — 22
  - ⊕ E1c — 24
  - ⊕ E1c — 28
  - ⊕ E1b — 29
  - ⊕ E1a — 30



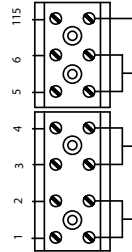
- lower element
- ⊕ E2a — 31
  - ⊕ E2b — 32
  - ⊕ E2c — 33
  - ⊕ E2c — 21
  - ⊕ E2b — 20
  - ⊕ E2a — 19



connectionblok-2



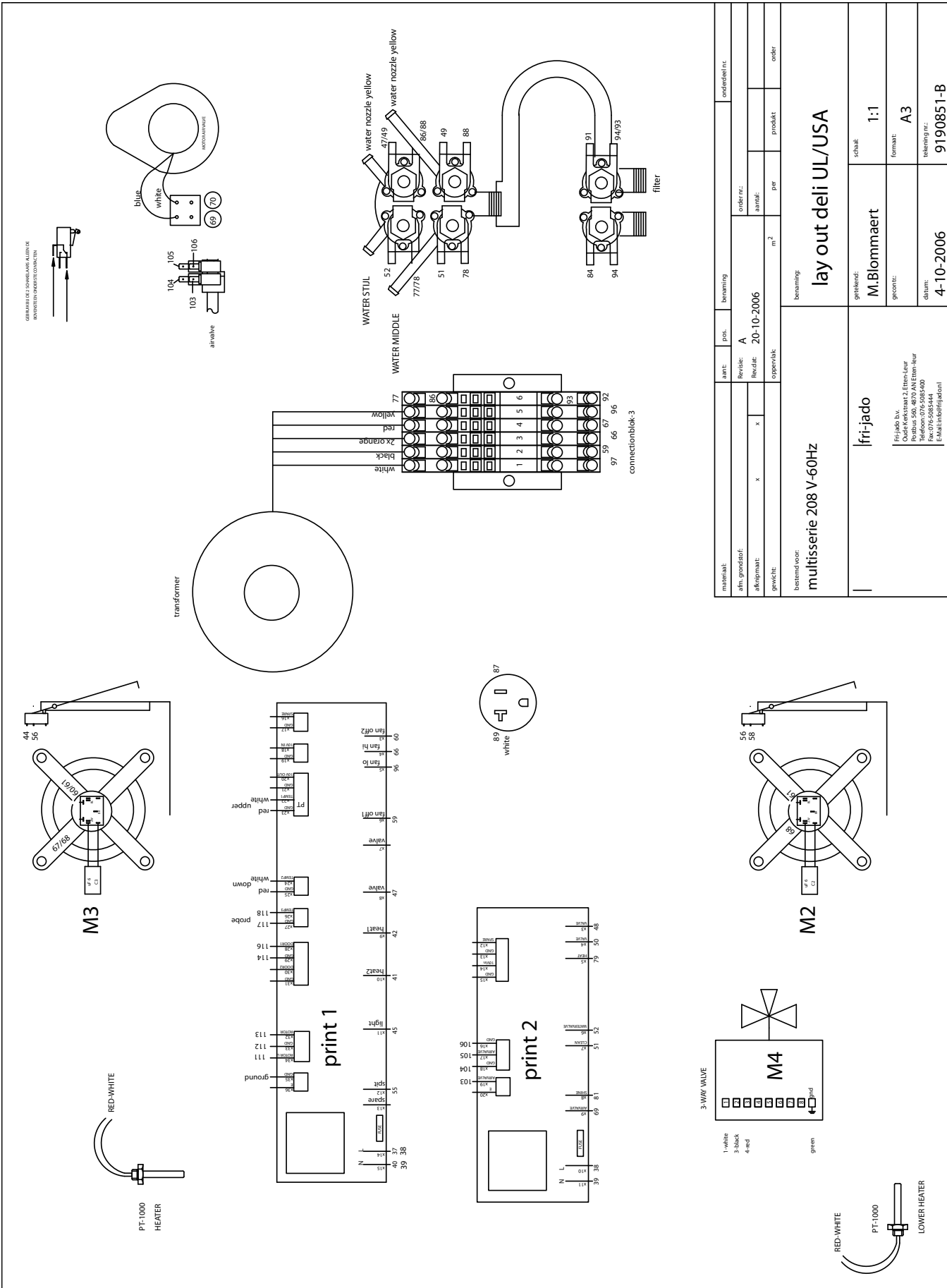
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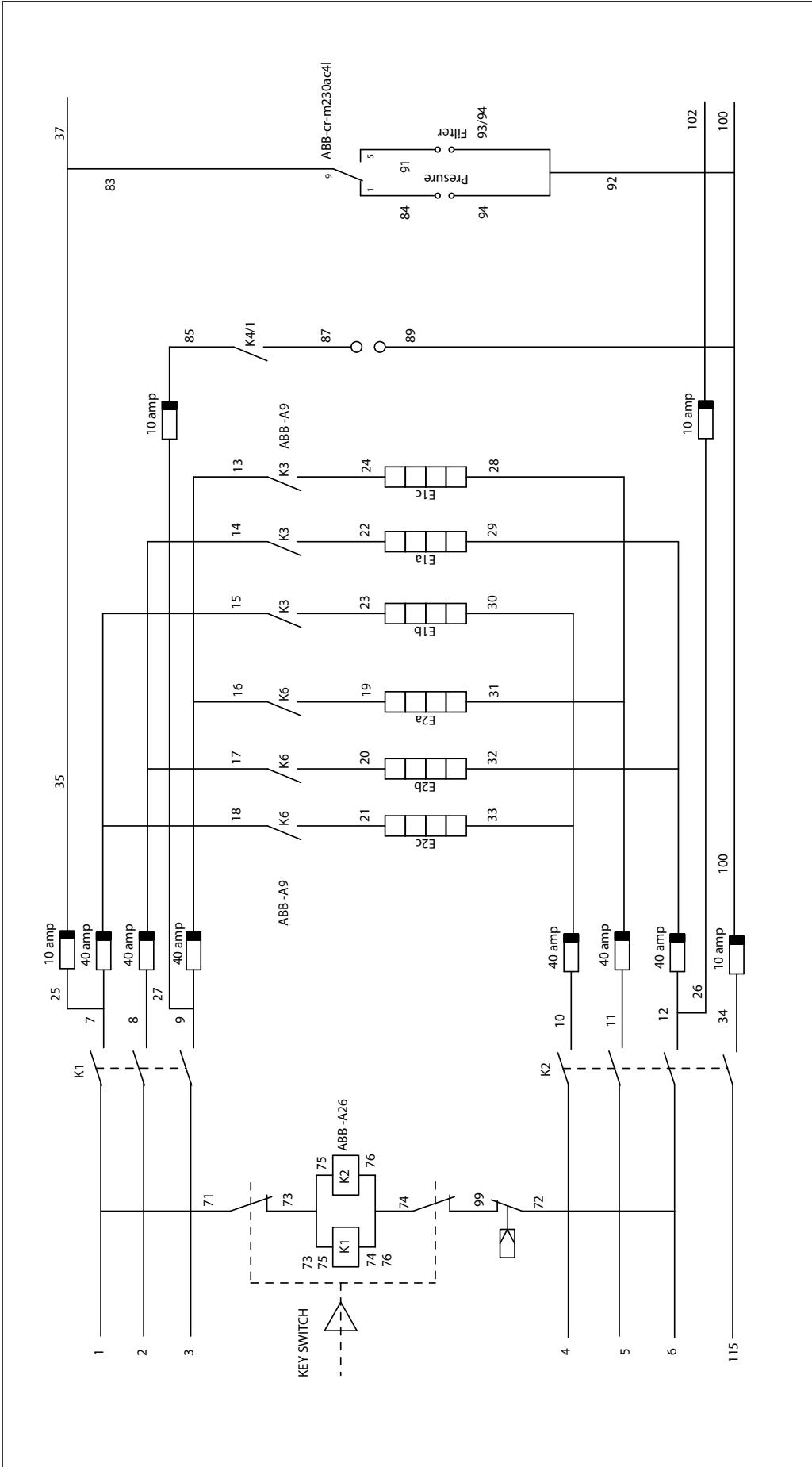
connectionblok-4

material:	pos:	benaming:	onderdeelnr.
afm. grondstof:	Revisie:	A	ondernr.:
afmeting:	Revisie:	20-10-2006	aantal:
gewicht:	oppervlakte:	m <sup>2</sup>	per product
bestemd voor:		order	
multisserie 208 V-60Hz		lay out deli UL/USA	
frij-jado		getekend:	M.Blommaert
Frij-jado B.V.		schaal:	1:1
Oude Kerkstraat 2, Eten-Leur		getekent:	A3
Postbus 560, 4870 Al Eten-Leur		tel.nr.:	9190851-A
T: 0565-508440			
Fax: 0565-508444			
E-Mail: info@frij-jado.nl			
datum:		4-10-2006	

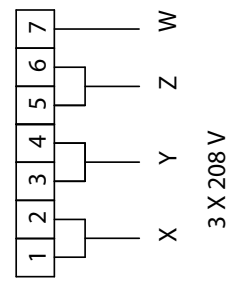
Deli Multisserie - wiring diagram



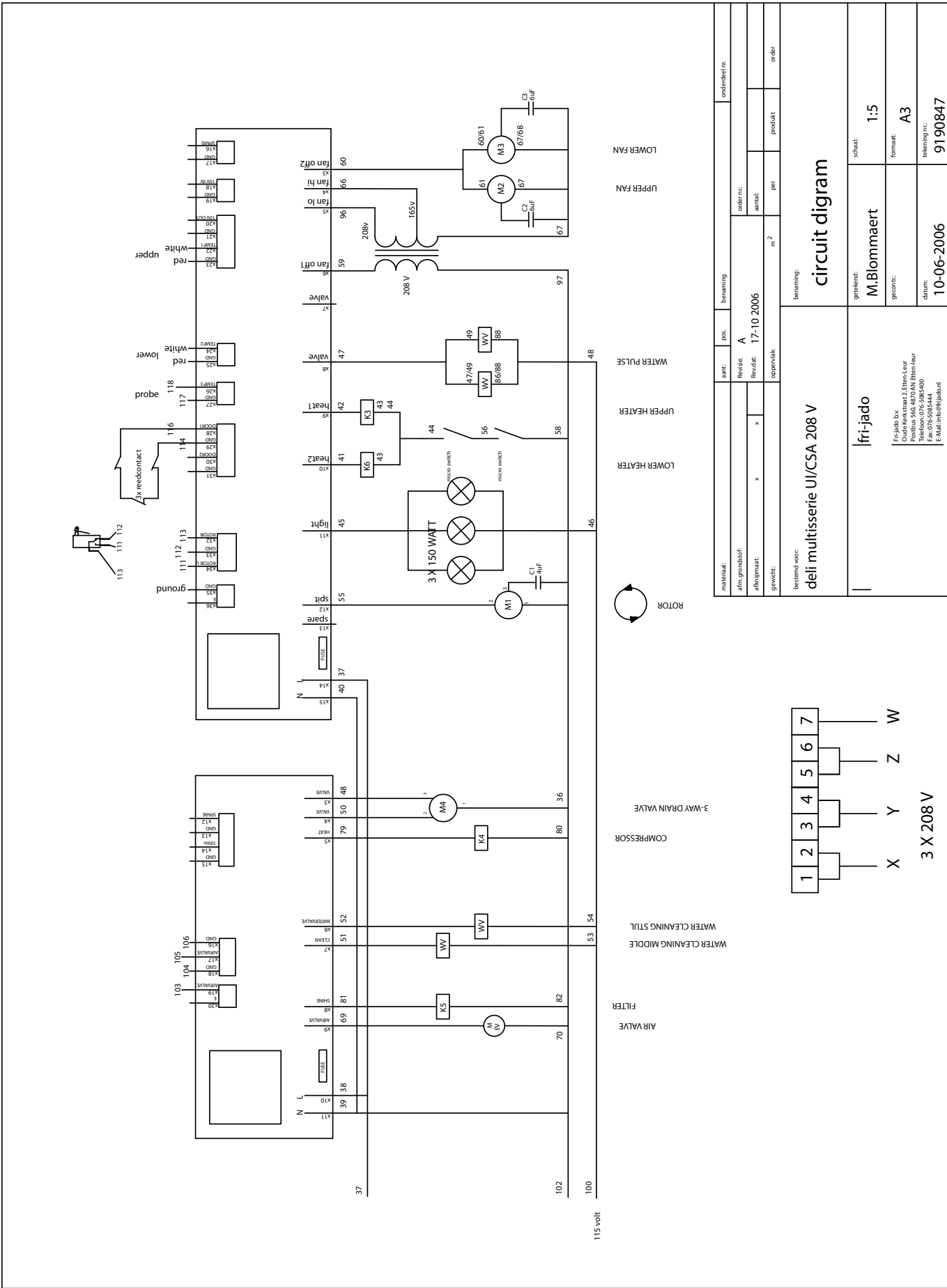
Deli Multisserie - wiring diagram



materiale:	amt:	pos.	benaming	onderdeel nr.
afm. grondstof:	Revisie:	A	order nr.:	
afkoppmaat:	Revisie:	17-10-2006	aantal:	
gewicht:	oppervlakte:	m <sup>2</sup>	per	product
bestemd voor:				
deli multisserie UL/CSA 208 V				
benaming:				
circuit diagram				
getekend:			schaal	
M.Blommaert			1:5	
gecont.:			maat:	
			A3	
datum:			tekening nr.:	
10-06-2006			9190847	



Deli Multiserie - circuit diagram



Del: Multisserie - circuit diagram

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**For technical support call:**  
**For parts call:**

**877 374-5236**  
**866 208-1486**

