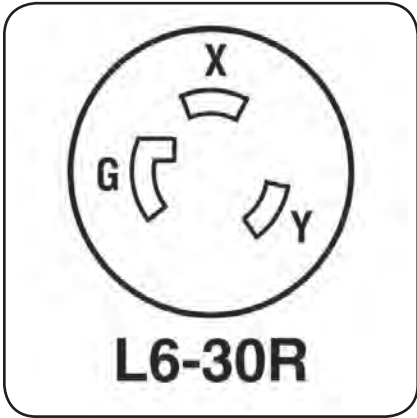


TANGO®

ACE-ST DUO



Install.....	3
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Power:

NEMA L6-30
30 Amps

Minimum 200 Volts
Maximum 242 Volts

The transformer MUST be adjusted to match the incoming voltage! (See next page)



Water:	Minimum	Maximum
Pressure	45 PSI	100 PSI
Flow Rate	1 Gallon/ Minute	
TDS	50 ppm	125 ppm
Total Hardness	3 GPG	5 GPG
PH	6.5	7.5
Free Chlorine	na	0.5 ppm
Total Chlorine	na	1 ppm



Use the provided shims on the rear legs if necessary to level the Tango. Angled slightly forward is also OK



Back pressure in the drain line will cause problems with the brewing system.

Drain:

Tango must be installed level or angled slightly forward!

Install the drain line running continuously downward so that no “trap” is formed.

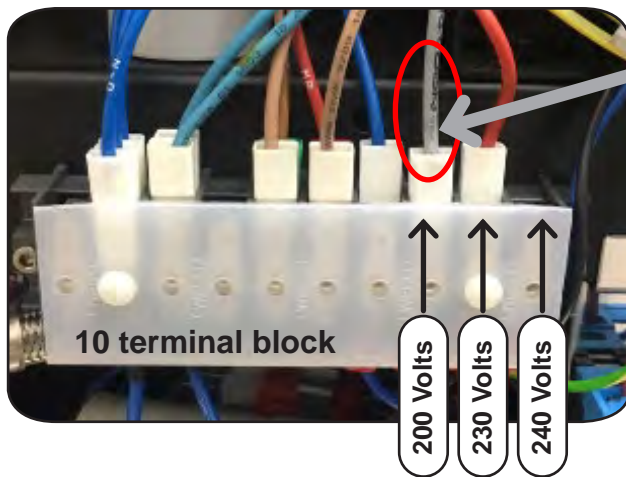
Voltage Setting

The jumper wire at the rear of the machine must be set to match the incoming voltage.



Incorrect voltage can cause problems with the touchscreen and valves.

All 2019 machines and some older machines



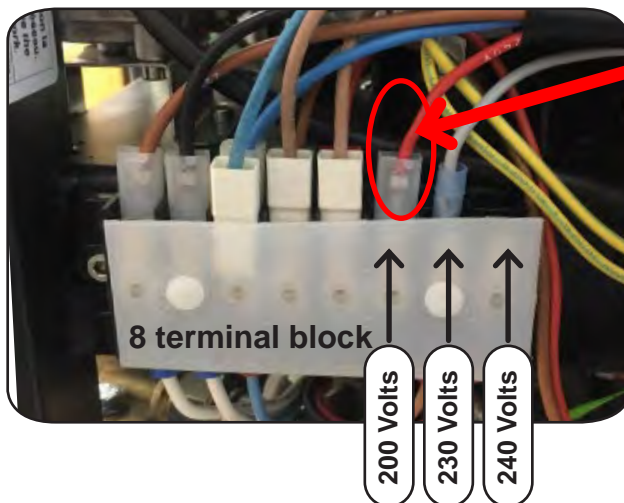
Move the GREY wire to the terminal that best matches the incoming voltage

(Red wire stays on 230 volt center terminal)

Sticker on rear frame



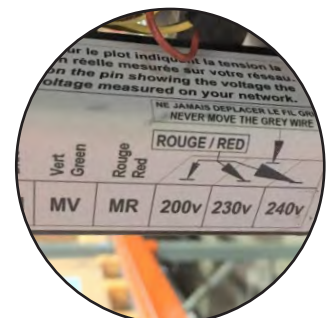
Different configuration for older machines



Move the RED wire to the terminal that best matches the incoming voltage

(Grey wire stays on 230 volt center terminal)

Sticker on rear frame



Step 1: Adjust the grinders fine or coarse for best extraction time. Typically done with the double espresso drink. Adjust both grinders.

Step 2: Capture a sample of the dry ground coffee. Weight the sample and enter the amount into the calibration programming. (2 sample cycles)

Adjust Grinders for best extraction: Each PM visit



Run a test drink
(Double shot)



Note coffee
flow time



Adjust grinder
fine or coarse
as needed



Run 2-3 drinks after
each adjustment.



Re-run and time test drink (Double shot)

18-26 seconds is usually the target time

Adjust grinder *finer* for *longer* extraction

Adjust grinder **coarser** for **faster** extraction

Repeat test and adjust as needed until extraction is in range

Turn counter-clockwise
for finer left (red) grinder.



Adjustments are opposite for each grinder

Turn clockwise
for finer right (green)
grinder.

Weigh & Calibrate Grinder Output

Weigh and enter coffee amount of
2 sample cycles during calibration



Tools needed:
Scale accurate to 0.1
grams
2 Paper cups



Optional:

Unic magnetic tray
holder and sampling
tray



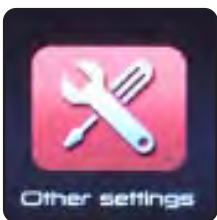
Press menu



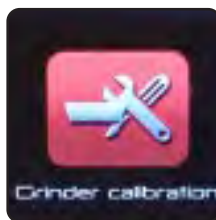
Enter 9191 - Press OK



Select
Setup



Select
Other
Settings



Select
Grinder
Calibration



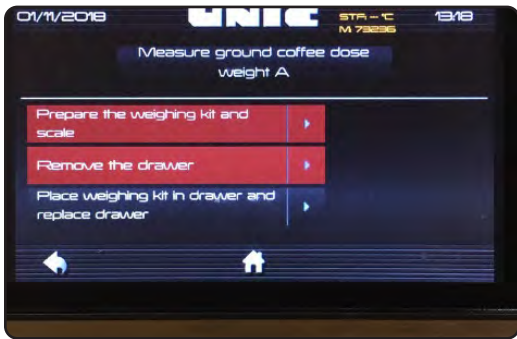
Select Purple (left) or Green (right)
grinder



Select Calibrate Weight



Select "Calibrate Weight" to start coffee weighing process.
(Adjust grind fine or coarse first, see previous pages)



Follow screen instructions
Remove drawer



"0" the scale with an empty cup



Tape a 2nd cup in the back of the drawer about 1" below the top



Insert the empty cup into the taped cup



Replace the drawer with both cups in place



Press confirm to start



Grinds Tamps, and Ejects



Remove and weight the cup with grounds

See next page for 2nd grind cycle

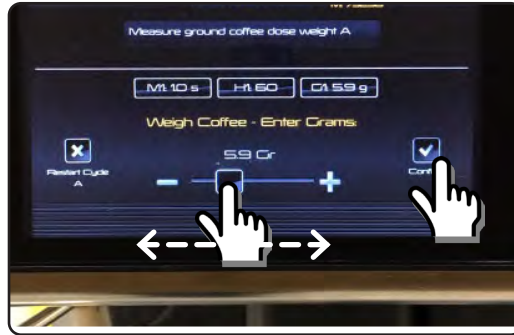


Calibrate Grinder Dose

Continued from previous page



Remove and weight the cup with grounds from the 1st cycle



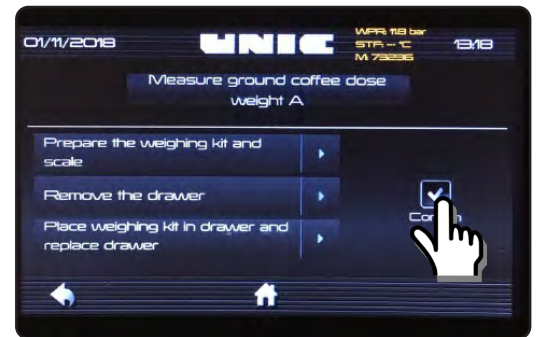
Enter the weight
Press confirm to save



Empty and replace the measuring cup



Replace the drawer with both cups in place



Press confirm to start 2nd grind cycle



Weight the grounds from the 2nd cycle:



Enter the weight
press confirm to save



Done!
Press check mark confirm & save

Repeat the process for the Green (right, decaf) grinder!



Tango ACE-ST PM Schedule

Mar-21

Tango ACE-ST PM	Unic Parts listing Description from ACE Parts Manual TG9060	Part #	Parts Manual Page	Quantity	6 Months	Odd Years	Even Years	6-Year Rebuild
Calibration & Adjustments								
Calibrate Grinder	Average 3 cycles each test	N/A			✓	✓	✓	✓
Adjust Turntable Tension	150-180 milliseconds	N/A			✓	✓	✓	✓
Test Coffee System Water Flow	200 ml in 20 seconds	N/A			✓	✓	✓	✓

Brewing Piston (Not part of PM kits, order separately)								
Piston Rebuild Kit	N/A	FR-1919	425	1		✓		
Coffee Brew Piston wo/motor	PISTON ASSEMBLY WITHOUT MC	FR-1010	425	1			✓	✓

Coffee Service Parts								
Turntable Rebuild Kit	N/A	FR-1551	420	1			✓	✓
Coffee Dosing Funnel Assembly	FUNNEL MOBILE KIT	FR-1006	410	1			✓	✓
Turntable Cover	PLASTIC TURNTABLE	FR-7000	420	1			✓	✓

4 MONTH Venturi Milk Service Parts (1 step only)								
Venturi Milk Foamer O-rings	(Not in PM Kit)	DV-1617	611	1	✓			
Venturi Milk Foamer Assembly	LC SET	FR-1046	611	1		✓	✓	✓

Gicleur Metering Jets Parts								
Copper Gasket for Pipe Fitting	N/A	CN-618	420	1			✓	✓
Gicleur Filter Screen	FILTER	25400	420	1			✓	✓
Gicleur Holder	JET HOLDER	23773	420	1			✓	✓
Gicleur Metering Jet (0.7mm)	JET DIAM. 0.7	23117	420	1			✓	✓
Gicleur O-ring - 1.78x2.9mm	GASKET 1.78 X 2.90 FKM	TC-80	420	1			✓	✓

Steam/Water Wands Service								
Steam Wand Swivel O-ring	O RING - 9.13 X 2.62	PH-78	201;241	1	✓	✓	✓	✓
Copper Spacer Washer	N/A	AG-14	201;241	1	✓	✓	✓	✓
Wand Spring	SPRING	PA-43	201;241	1	✓	✓	✓	✓
Wand Spring Holder	BRASS END	RR-67	201;241	1	✓	✓	✓	✓
Upper O-ring for Steam/Water Wands	O RING - 13.95 X 2.62	PH-54	201;241;251	2	✓	✓	✓	✓

Tango ACE-ST PM	Unic Parts listing Description from ACE Parts Manual TG9060	Part #	Parts Manual Page	Quantity	6 Months	Odd Years	Even Years	6-Year Rebuild
SteamAir Autosteam Service								
12 Hole Steam Tip	12 HOLES END PIPE	25909	241	1		✓	✓	✓
O-ring - 2x9.5mm	GASKET 2 X 9.5	28134	241	2		✓	✓	✓
O-ring - 8.73x1.78mm	GASKET 8.73 X 1.78	CN-436	241	1		✓	✓	✓
O-ring - 9.13x2.62mm	O RING - 9.13 X 2.62	PH-78	241	1		✓	✓	✓
Set-screw - M5x8mm	POINT END SCREW	PC-38	241	1		✓	✓	✓
Spring Inserts	THRUST BALL BEARING	RO-58	241	2		✓	✓	✓
Other PM Parts								
Drip Tray O-ring	O RING - 2.62 X 17.13	27845	361	1		✓	✓	✓
Cleaning Cap O-ring	GASKET 3.53 X 34.52 EPDM	27907	361	1		✓	✓	✓
Cleaning Cap Flat Seal	GASKET	28700	361	1		✓	✓	✓
Vacuum Break Plunger O-ring	GASKET 6.07 X 1.78	CN-198	201	1		✓	✓	✓
Complete Vacuum Break Kit	VACUUM VALVE KIT	27224	201	1			✓	✓
Steam Boiler Safety Valve	LP VALVE 3.5 BARS	27200	340	1			✓	✓
Water Inlet Filter 80 Microns	FILTER CARTRIDGE 80 MICRONS	CN-96B	620	1			✓	✓
Water Inlet filter Cap O-ring	GASKET 3.53 X 29.75	83501	620	1			✓	✓

General Service Parts								
Hot Water/Coffee Flow Meter Impeller	TURBINE	CN-829	251;330	2				✓
Hot Water/Coffee Flow Meter O-ring	GASKET - DOSING DEVICE	CN-828	251;330	2				✓
High-Level Probe Assembly	HIGH LEVEL PROBE	26526	340	1				✓
Low-Level Probe Assembly	LOW LEVEL PROBE	26527	340	1				✓
Americano Valve	ELECTROVALVE 2 WAYS 24V D2.3	35500	345	1				✓
Americano Valve O-ring - 2x9.5mm	GASKET 2 X 9.5	28134	345	2				✓
Grinder Burrs 64mm	GRINDING WHEEL SET	37516	401	2				✓

Heat Exchanger Service Parts								
Heat Exchanger O-ring - 1.78x17.17mm	O RING 1.78 X 17.17	27716	345	1				✓
Heat Exchanger Teflon Seals	PTFE FLAT GASKET	28720T	345	2				✓
Brew Valve Pipe O-ring - 1.78x12.42mm	O RING - 1.78 X 12.42	27796	345	2				✓
Americano Valve Banjo O-ring - 2x9.5mm	GASKET 2 X 9.5	28134	345	2				✓
Copper Crush Washer 1/2	JOINT CUIVRE RECUIT 1/2	CH-17	345	2				✓

Complete PM Kits	
Tango Ace/ST 2 Step 6 Month	250-00365
Tango Ace/ST 2 Step Years 1-3-5	250-00367
Tango Ace/ST 2 Step Years 2 & 4	250-00366
Tango Ace/ST 1 Step 4 Month	250-00362
Tango Ace/ST 1 Step Years 1-3-5	250-00364
Tango Ace/ST 1 Step Years 2 & 4	250-00363

www.unic-usa.com
www.grindmaster.com
www.electroluxprofessional.com

Piston Water flow test



Measure the water flow through the Piston during the spout rinsing cycle.

Clean or replace the Piston if the flow is restricted.

Remove and replace grounds drawer to start the rinsing cycle.



Press and Hold YES for 3 seconds to start the rinsing cycle



Ace / STP:
20 Second Flow
~225 ml rinse
←

180-250 ml = Normal flow

150-200 ml = Slight restriction, run a cleaning cycle and test again

Less than 150 ml = Piston clogged. Remove piston to clean or replace.

The piston should be replaced if it draws more than 2.3 amps.

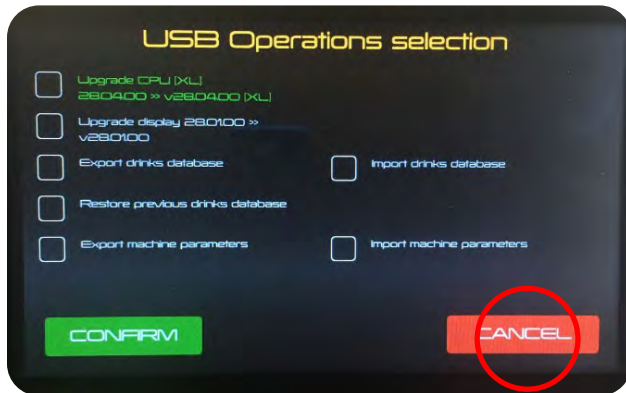


Insert USB key

Piston Information	
Coffee (gr)	165
Water (cc)	50
Tassage Level	2
I Tassage [A]	20
Recul	28
XInf	91
Xject	123
I Frotements [A]	14

Insert Technicians USB

Piston information is displayed while each drink is pouring with the USB is in place



Insert USB, Press Cancel



Press Single or Double to run a test cycle



Piston Information Screen

Piston Friction
Range: 0.8Amps - 2.3 Amps

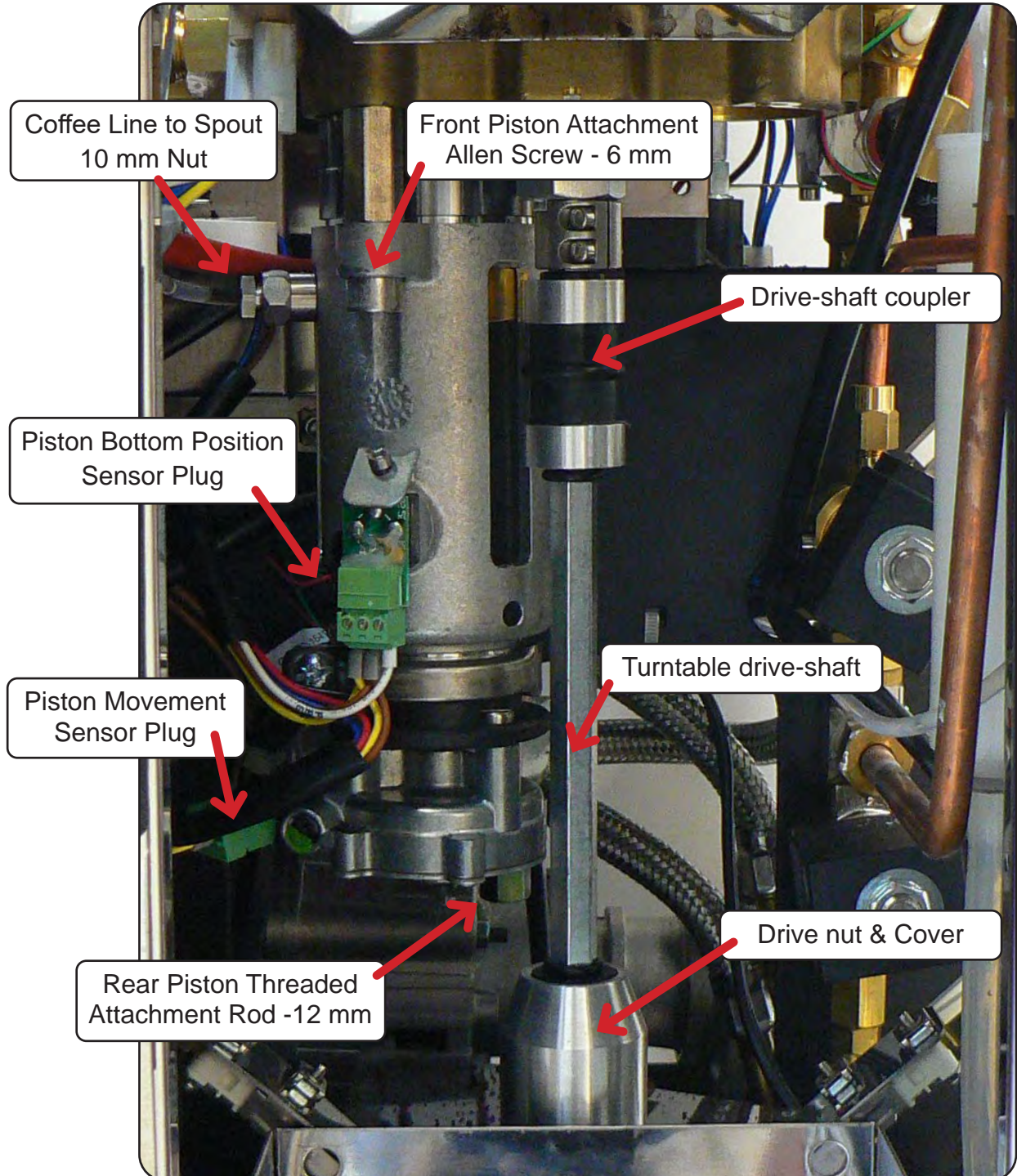
1.4 Amps shown

Tango Brewing Piston Exchange

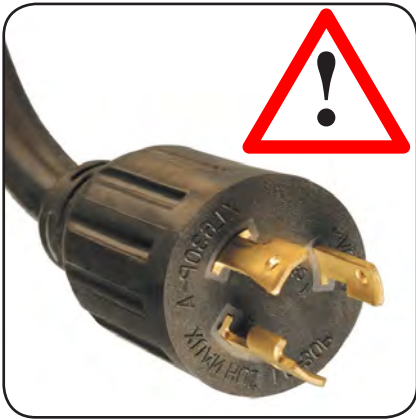
Tango UNO/SOLO - ACE/ST

Tools needed:

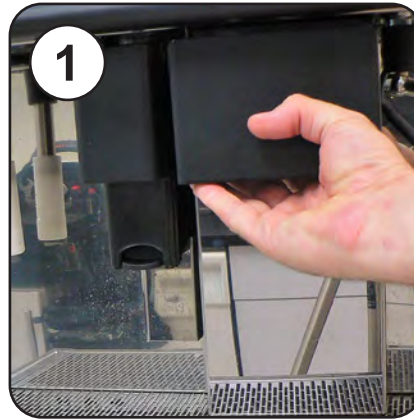
- Flat Blade Screwdriver
- 10 mm wrench
- 12 mm wrench
- 6 mm Allen Wrench



Tango Brewing Piston Exchange



Unplug Machine



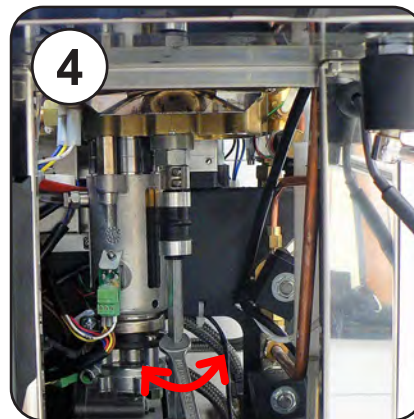
Remove Grounds Drawer



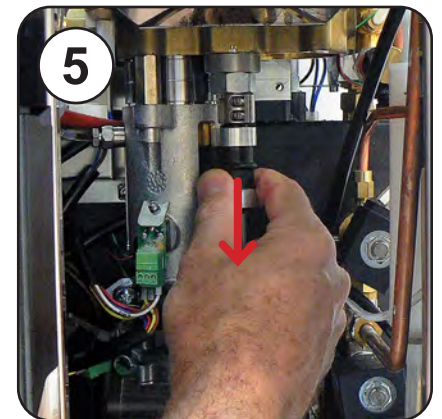
Remove the 4 side screws from the Inner panel



Remove the Inner Panel



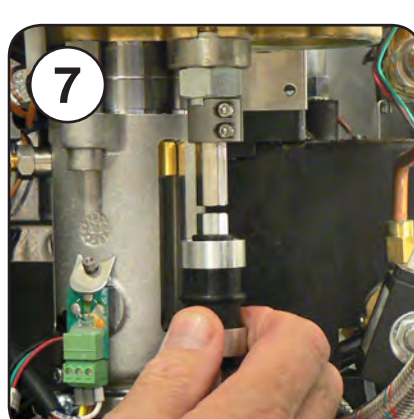
Relieve tension on Turntable shaft by rocking it with a 10 mm wrench



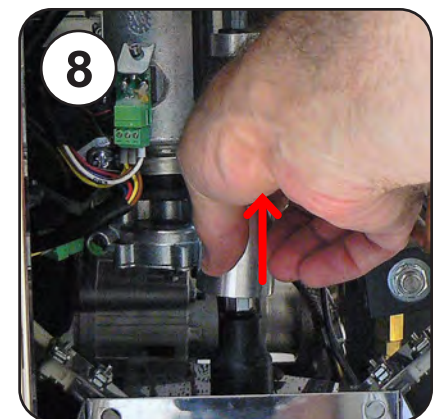
Slide upper coupling down



Use a flat screwdriver to push coupling down if necessary

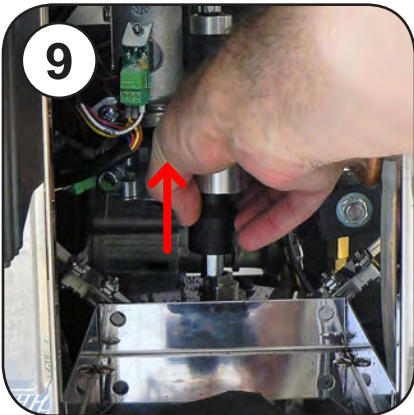


Turntable shaft released



Lift aluminum reinforcement cover from lower coupling

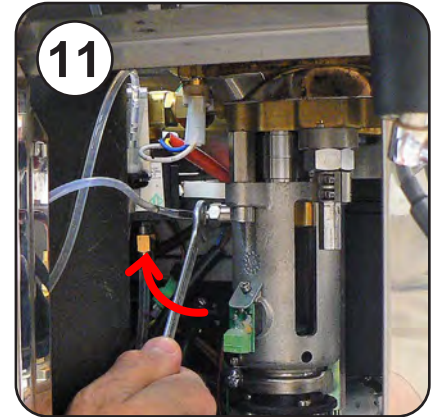
Tango Brewing Piston Exchange



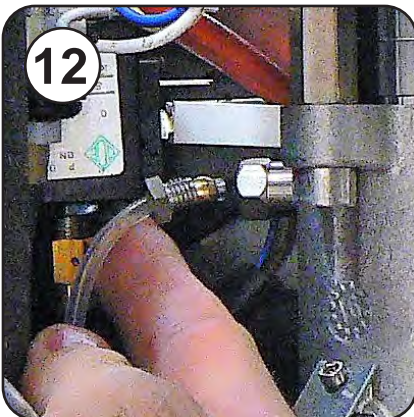
9 Lift nylon drive nut from lower coupling



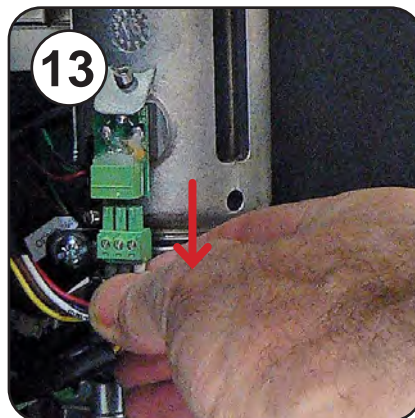
10 Remove Turntable drive-shaft



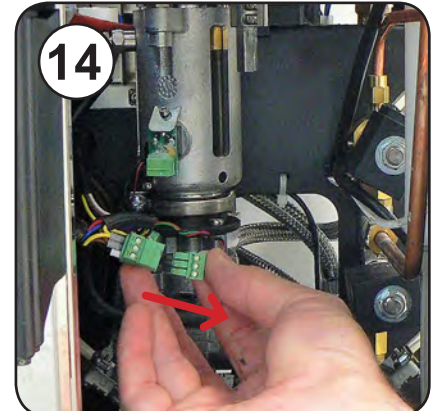
11 Remove line to spout
10 mm compression fitting



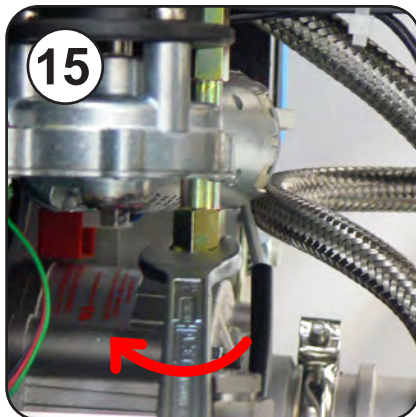
12 Coffee output line to spout



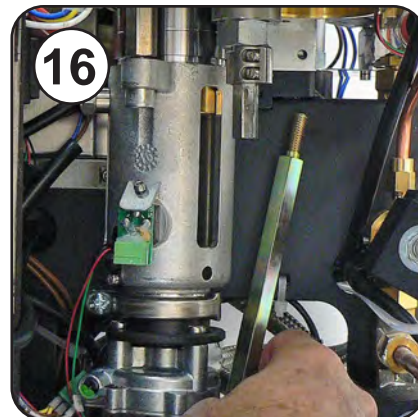
13 Unplug Piston lower position sensor



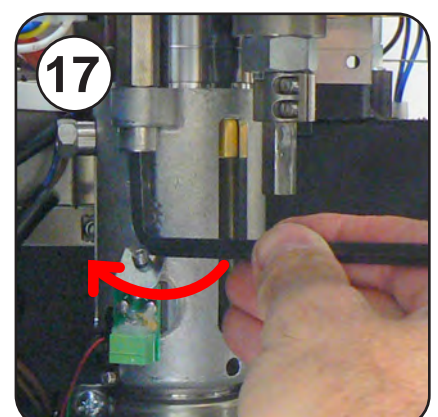
14 Unplug Piston Movement Sensor Plug



15 Unscrew rear mounting post - 12 mm wrench

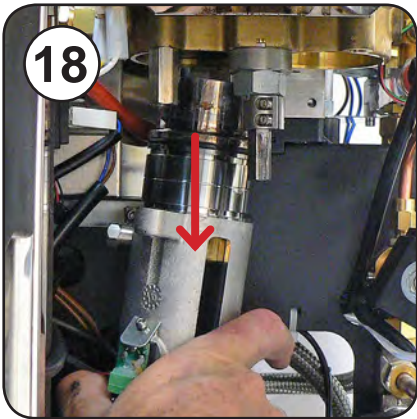


16 Remove rear mounting post

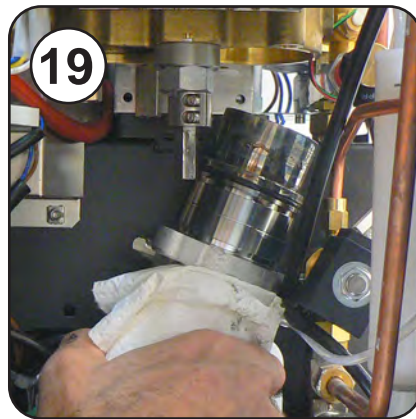


17 Remove front mounting bolt - 6 mm Allen

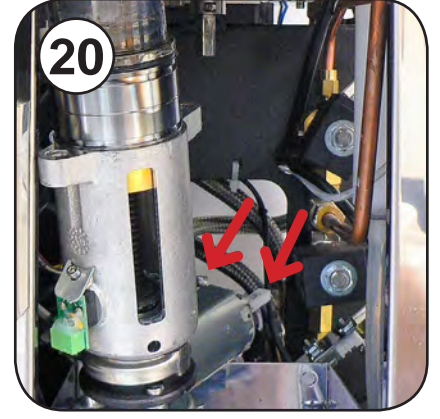
Tango Brewing Piston Exchange



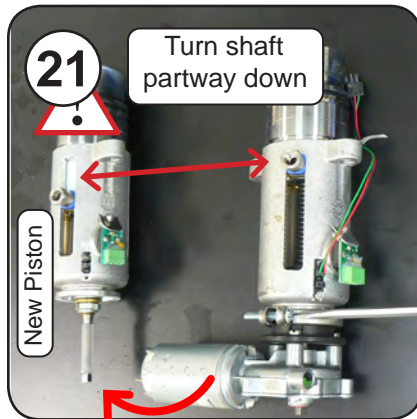
Slide piston down



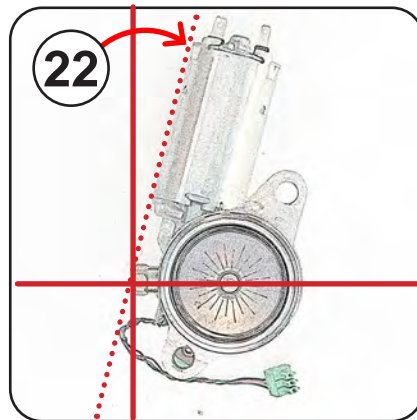
Rotate to the right to remove



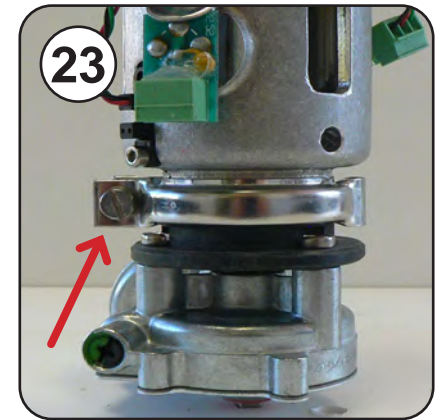
Remove piston halfway
Unplug piston motor wires



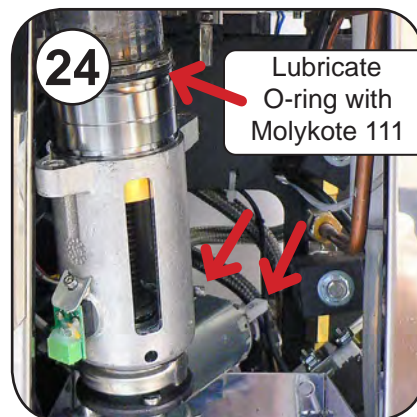
Transfer Motor
*Rotate shaft of new Piston
part-way down first!*



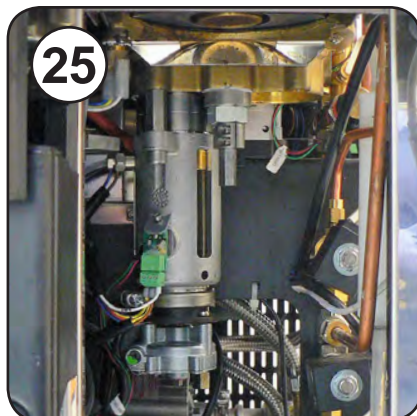
Orient motor at this angle



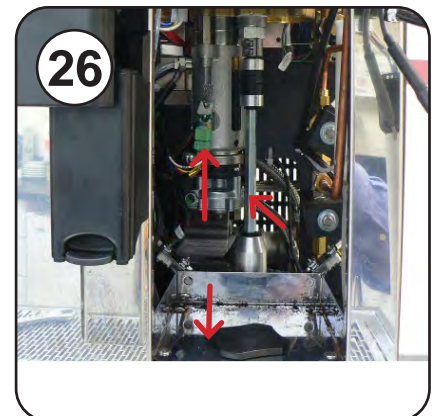
Clamp must be on the left
with the screw facing out
Tighten screw firmly



Reattach motor wires!
Polarized 1/8" & 1/4" plugs



Reinstall Piston
Tighten screws, Attach
plugs & Coffee Line



Replace Turntable shaft
Slide coupler up
Slide O-ring up to notch

Brewing Piston Field Service for coffee clogs

- Limited field rebuild
- Clean areas of coffee contact
- Replace Seals and O-rings
- Replace filter screen

Allowed substitute for a piston change if the lower bearing is OK and the electronic sensors are in good condition



IKV-Fluor
UNIC turntable
grease

Dow Molykote 111 grease

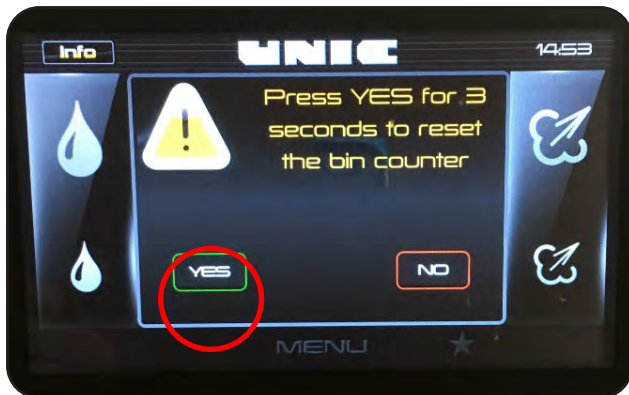
Piston Water Flow Test

Tango all versions

Measure the water flow through the Piston during the spout rinsing cycle.
Consider a Field Rebuild if the flow is restricted.



Remove and replace grounds drawer to start the rinsing cycle.



Press and Hold YES for 3 seconds to start the rinsing cycle



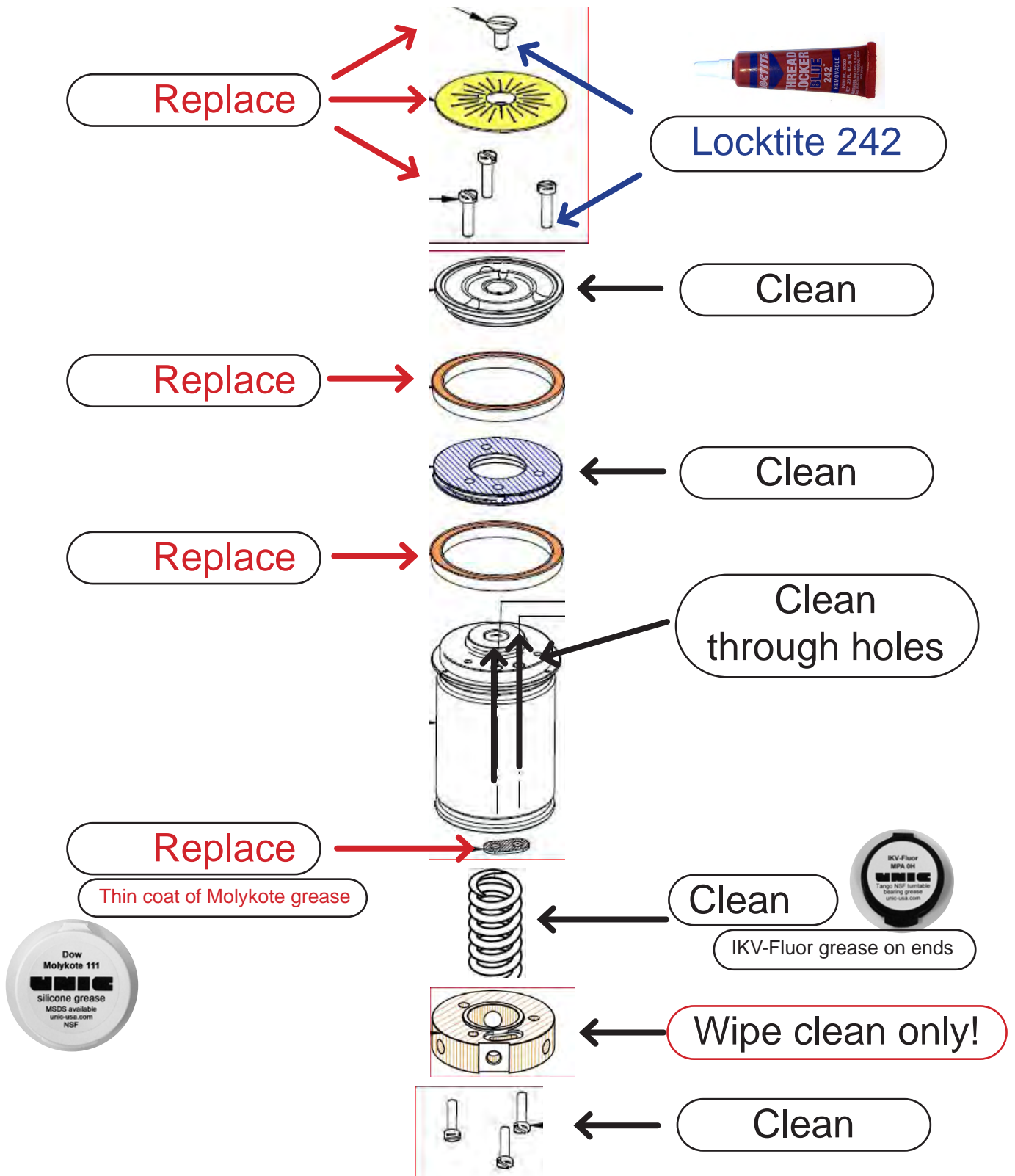
Ace / STP:
20 Second Flow
~225 ml rinse

180-250 ml = Normal flow

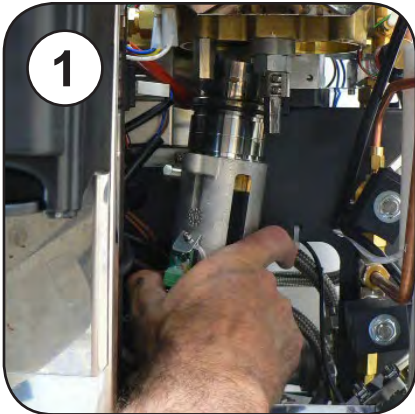
150-200 ml = Slight restriction, run a cleaning cycle and test again

Less than 150 ml = Piston clogged. Remove piston to clean or replace.

Tango Brewing Piston Field Service Overview



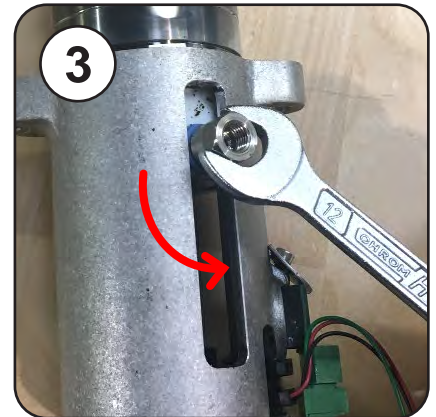
Tango Brewing Piston Field Service



1 Remove the piston from the machine



2 Pull the brew chamber off of the piston



3 Remove outlet nipple
12 mm wrench



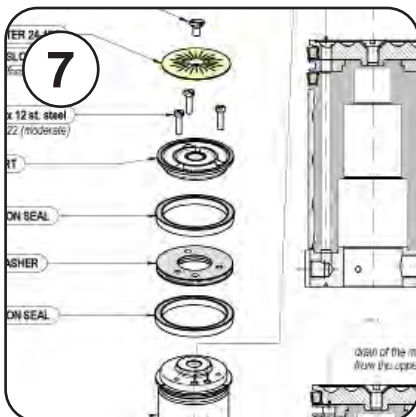
4 Unscrew the inner piston from the jack-screw
Left hand threads!



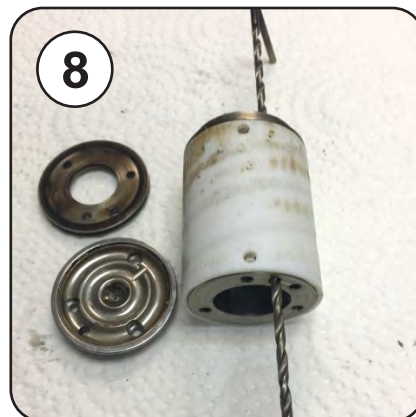
5 Remove the 3 mm Allen screws from the lower plate
The spring will decompress!



6 Remove the Bottom Plate, Threaded Follower, and Spring



7 Remove Screen, Seals, and Spacers



8 Use a 1/8" drill bit to clear coffee pathways



9 Soak the dirty parts in coffee cleaner

Tango Piston Re-Assembly



DO NOT soak the lower ring in cleaner. It has 2 press-fit magnets!



Apply a thin coat of Molykote grease to the new lower seal



Install the seal



Apply a small amount of IKV-Fluor grease to the ends and SIDES of the spring



Assemble the spring and lower plate



Make sure the holes in the seal line up with the holes in the piston!



Reinstall the 3 Allen screws
The screws will compress the spring; no locktite needed.



Install the new seals with the orange side up



Rotate the pieces until all 4 holds line up

Tango Piston Re-Assembly



18

Apply a small amount of Locktite to each screw



19

Install the 3 screws



20

Apply a small amount of Locktite to the screen screw



21

Install the screen



22

Apply a the remaining IKV-Fluor grease to the jack-screw shaft



23

Re-attach inner piston
Left hand threads!



24

Align screw hole with the left side slot
(For single piston machine)



25

Lube new outlet seal



26

Apply a small amount of Locktite to the threads

Tango Piston Re-Assembly



Re-install outlet



Apply a thin layer of Molykote grease to the brew chamber



Push the inner piston straight down into the brew chamber



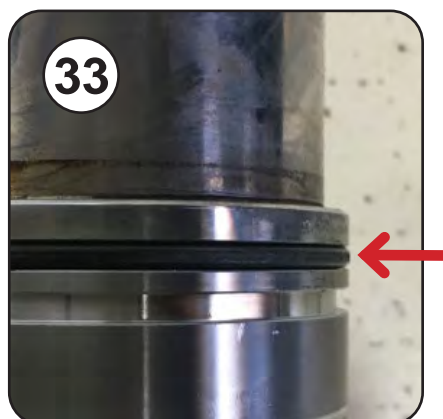
Be very careful not to pinch or roll under the seal edge!
(A damaged seal will cause the piston to leak and the Amp draw will be high)



Coat the outer O-ring with Molykote grease



Install the O-ring on the outside of the brew chamber



O-ring in upper groove!



Re-install piston

The field rebuilt piston must be tested in the machine!

See the [Piston Evaluation / Exchange Instructions](#) for the following tests:

Water Flow:

Measure rinsing water flow through piston

(~225 ml ACE/ST ~60 ml UNO/SOLO)

Amp Draw (Friction of movement):

Verify piston Amp draw is in range (0.8 Amps - 2.3 Amps)

Cleaning:

Run a cleaning cycle to sanitize the piston and remove assembly grease

Tango Turntable Service

Every 2 years

(Or if leaking from underside of Turntable)

(Adjust Turntable Bearing Tension every 6 months, see next section)

Tango UNO/SOLO - ACE/ST

FR-1551
Turntable PM kit

Tools needed:

Flat Blade Screwdriver
7 mm wrench
10 mm wrench

22 mm wrench
6 mm Allen wrench
2.5 mm Allen wrench

1. Remove the Brewing Piston
2. Remove the Turntable
3. Clean the Coffee Dosing & Turntable area
4. Install new Seals and Friction Pads under the Turntable
5. Repack the Turntable Bearing Grease
6. Adjust the tension on Turntable Bearing (turntable speed)



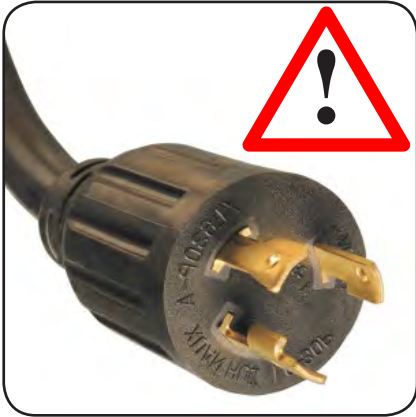
ACE / ST

UNO / SOLO

The Turntable speed (TT) should be between 140ms -180ms

Tango Turntable Service

Access Turntable



Unplug Machine



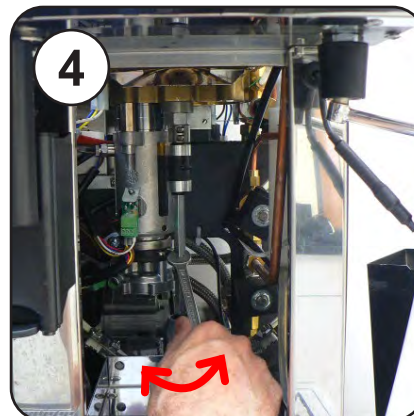
Remove Grounds Drawer



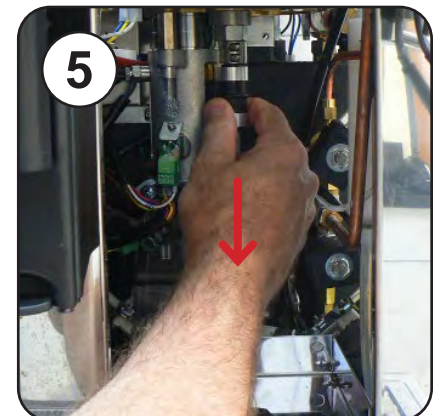
Remove the 4 side screws from the shroud panel



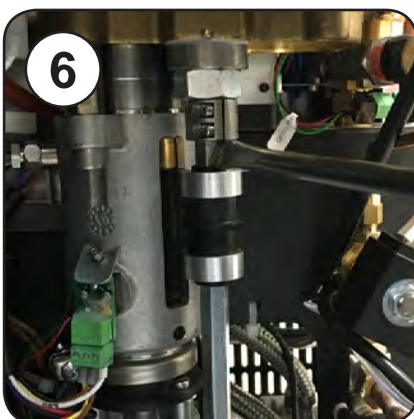
Remove the Inner Panel



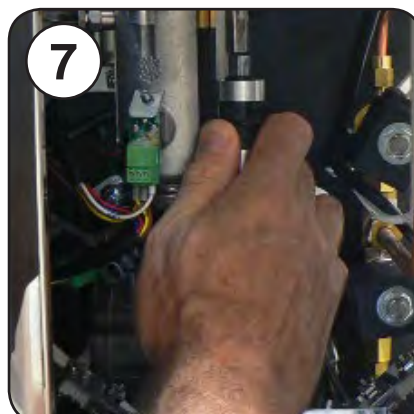
Relieve tension on Turntable shaft by rocking it with a 10 mm wrench



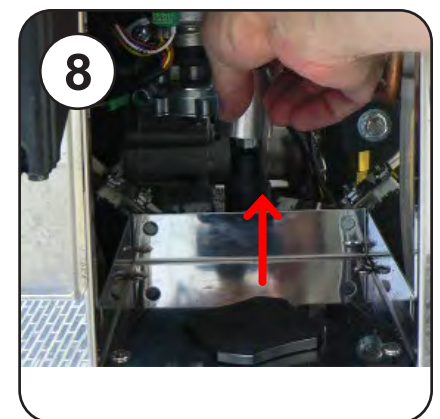
Slide the upper coupling down



Use a flat screwdriver to push coupling down if necessary



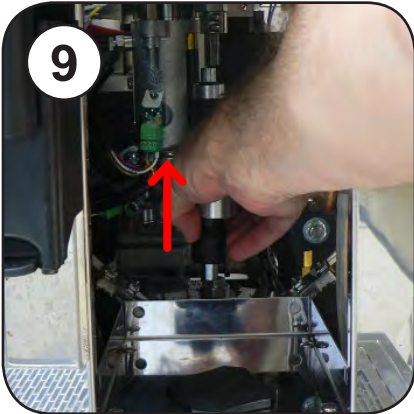
Turntable shaft released



Lift aluminum reinforcement cover from lower coupling

Tango Turntable Service

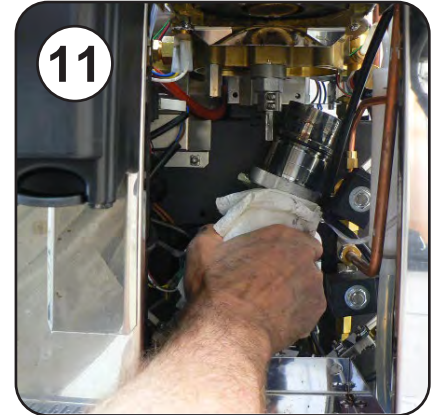
Access Turntable



9
Lift lower coupling from gearbox



10
Remove Turntable drive shaft



11
Remove the piston at this time to allow better cleaning if needed.
See Piston Exchange Instructions



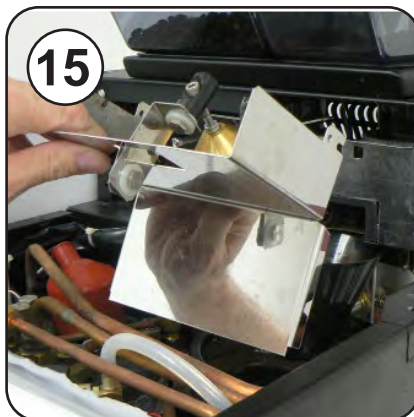
12
Remove Coffee Funnel
Press spring latch in while pulling funnel straight out



13
Remove side shrouds
Loosen 7 mm bolt first
Do Not remove bolt



14
Lift both side shrouds straight up



15
Remove Ejector bell assembly



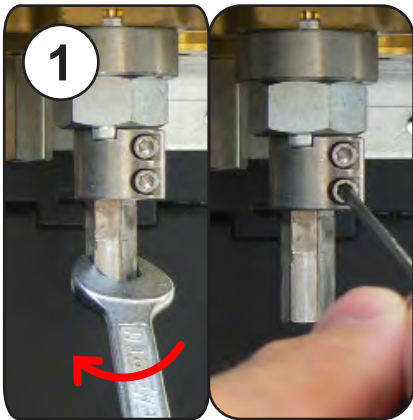
16
Remove the three 6 mm Allen screws from the turntable cover



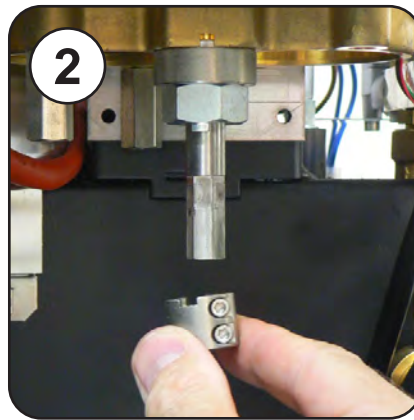
17
Lift Turntable cover off
Clean cover with soapy water

Tango Turntable Service

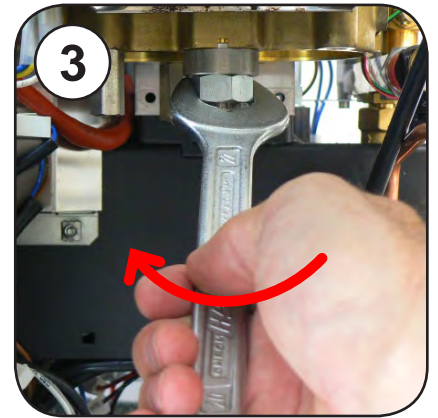
Remove Turntable



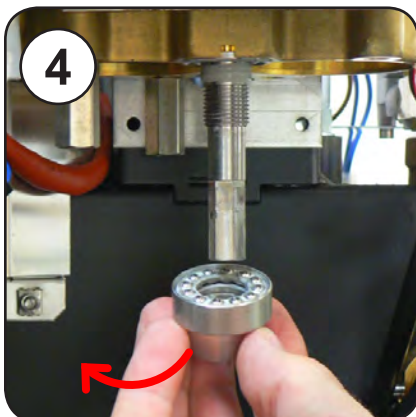
1
Loosen 2.5 mm turntable lock screws
(Rotate shaft first if needed)



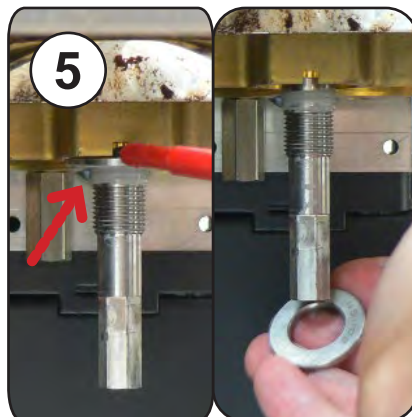
2
Remove locking collar



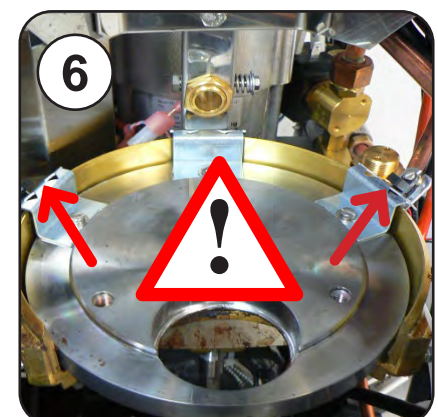
3
Remove 22 mm adjustment nut



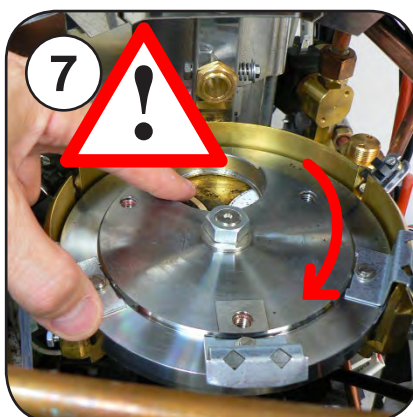
4
Remove Nut and Bearing assembly



5
Pry the top bearing race out if it stayed on the shaft



6
Do not damage position sensors when removing Turntable!



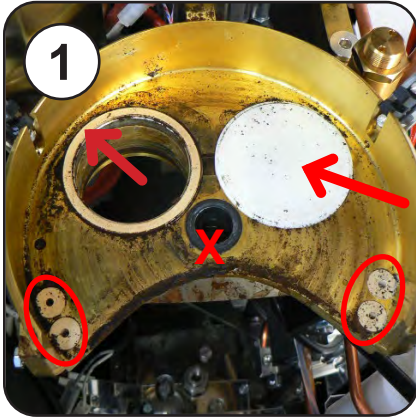
7
Rotate Turntable so the tabs are not inside the sensor slots



8
Lift Turntable out
Caution, it may be hot!

Tango Turntable Service

Clean Turntable Area



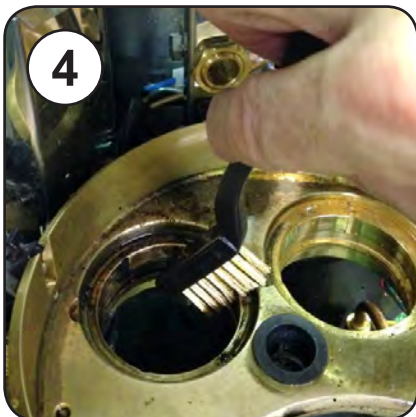
1
Remove and discard old
Seals, O-rings, and Pads
Do not remove center Bushing



2
Clean the area thoroughly



3
For deep cleaning, place a
container under the turntable
to catch runoff



4
A brass or nylon brush
may be necessary



5
Scrub the base with coffee
cleaner. Rinse thoroughly.



Tango Turntable Service

Install new Seals

FR-1551
Turntable PM kit



Install new O-rings with Molykote 111 grease



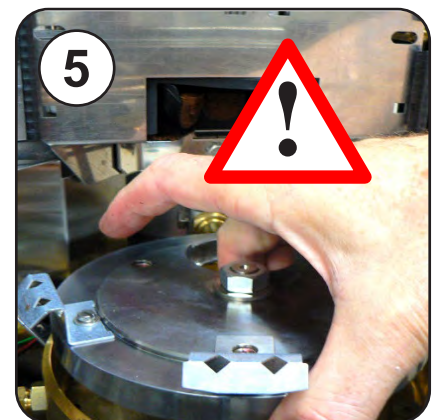
Install seal, 4 support pads, and white plug.
No grease!



Replace O-ring under Turntable
Use Molykote 111



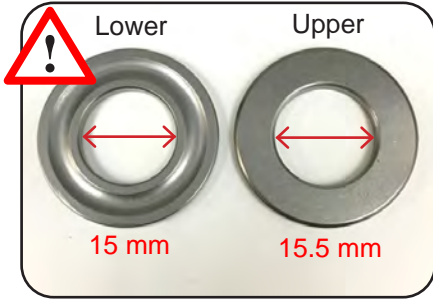
Place a small amount of IKV-Fluor grease on the turntable shaft



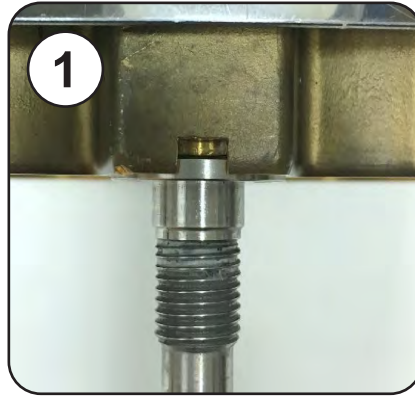
Carefully install Turntable with eject hole to the rear.
Do not damage sensors!

Tango Turntable Service

Repack and Install bearing



The upper bearing race has a larger hole.
Test fit the upper race first



Upper race MUST recess into turntable holder.



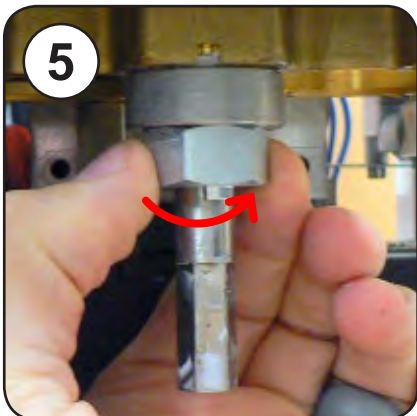
Place the lower race (groove up) in the cup and apply a small amount of grease



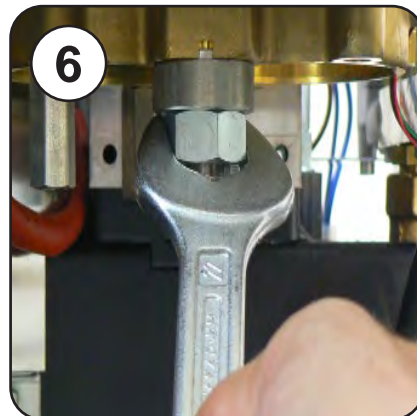
Install the bearing open side up. Apply a small amount of IKV-Fluor grease



Place the top race (larger hole) groove down
Markings may be different than shown!



Hand tighten bearing and nut onto shaft
(Note top race fits into recess)

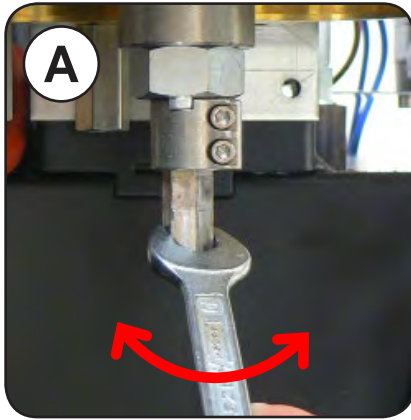


Tighten nut until firm

See next page for proper bearing tension setting

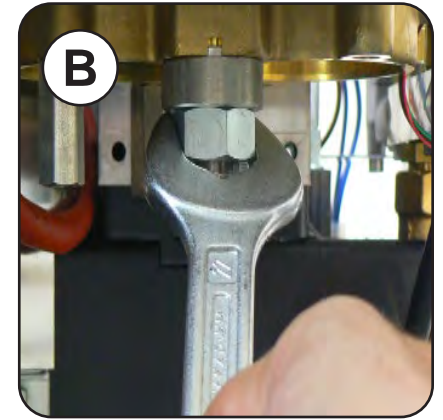
Tango Turntable Service

Bearing Tension Initial Adjustment

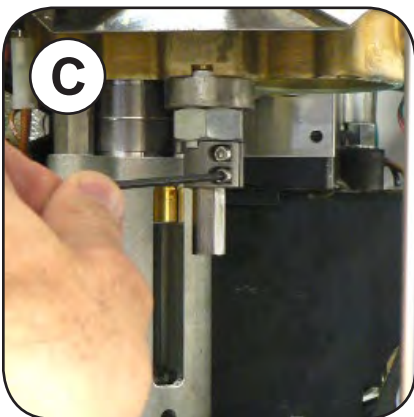


Check tension of Turntable

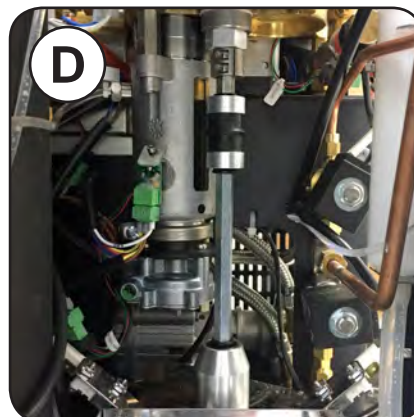
Check tension of Turntable
Re-adjust 22mm nut until tension is very firm
Can not move by hand, takes some effort to turn with wrench



Re-adjust if needed



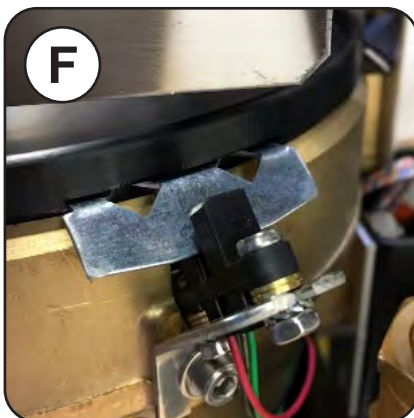
Install locking collar
Don't over tighten, final tension adjustments are made after machine is ON



Reinstall Turntable drive-shaft



Rotate Turntable to align shafts before sliding coupler up

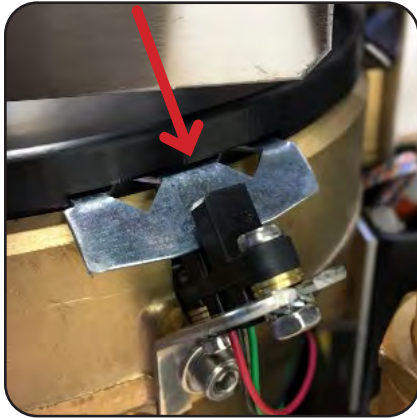


Note: If the Initial tension setting is too tight or loose, final adjustment will not be possible.

The metal tab will not stop inside the sensor when switched ON.
Fault Code 4 will display.
Re-adjust tension as above if this occurs.

Tango Turntable Service

Bearing Tension Final Adjustment



The Position Sensor should stop between the diamond cutouts



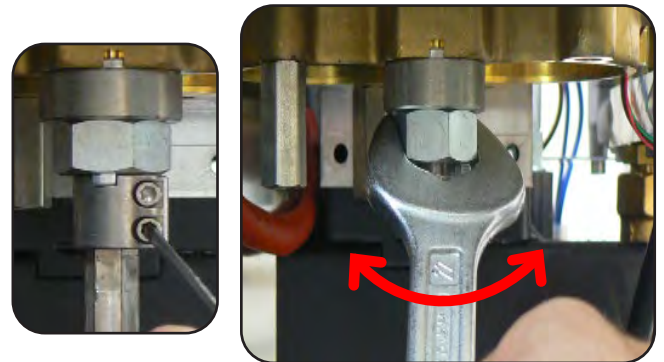
ACE / ST

UNO / SOLO

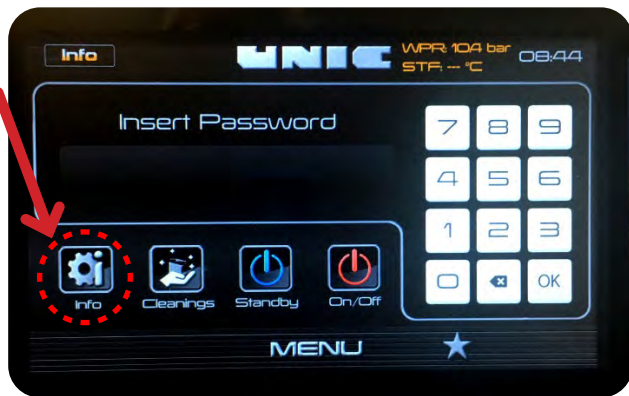
The Turntable speeds (Tt):
2 numbers = left and right rotation
170ms -190ms for newly installed seals
140ms -180ms machine already in use

Change the speed numbers by adjusting the tension of the Main Bearing

Loosen 2.5 mm turntable lock screws
(Rotate shaft first if needed)

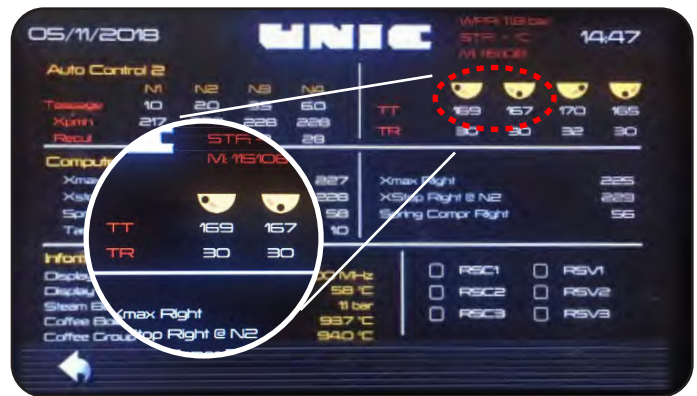


To display turntable speed:



ACE / ST

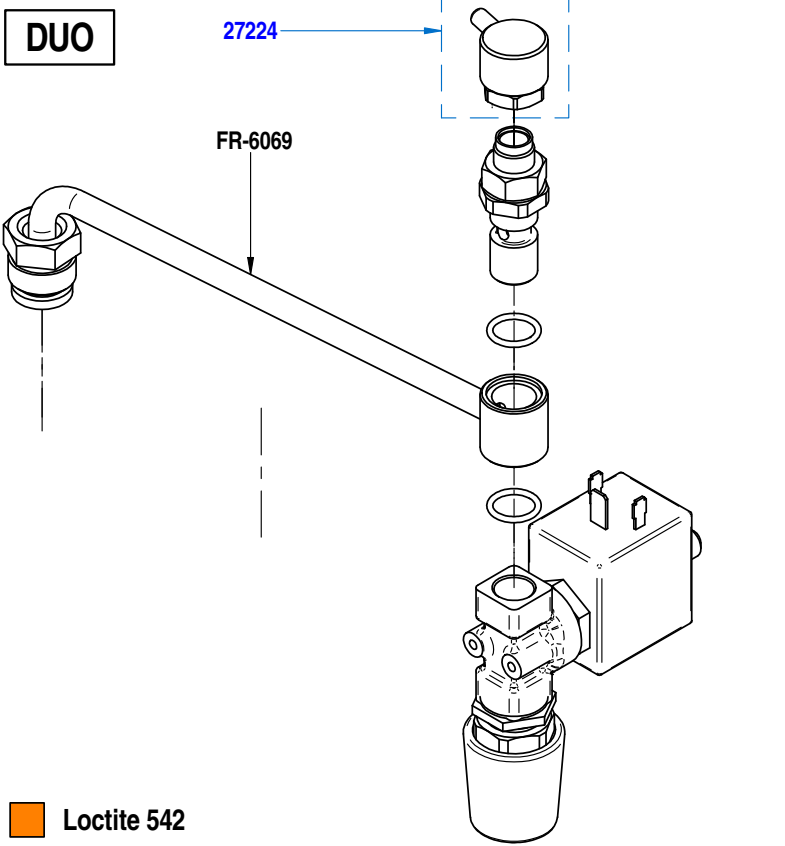
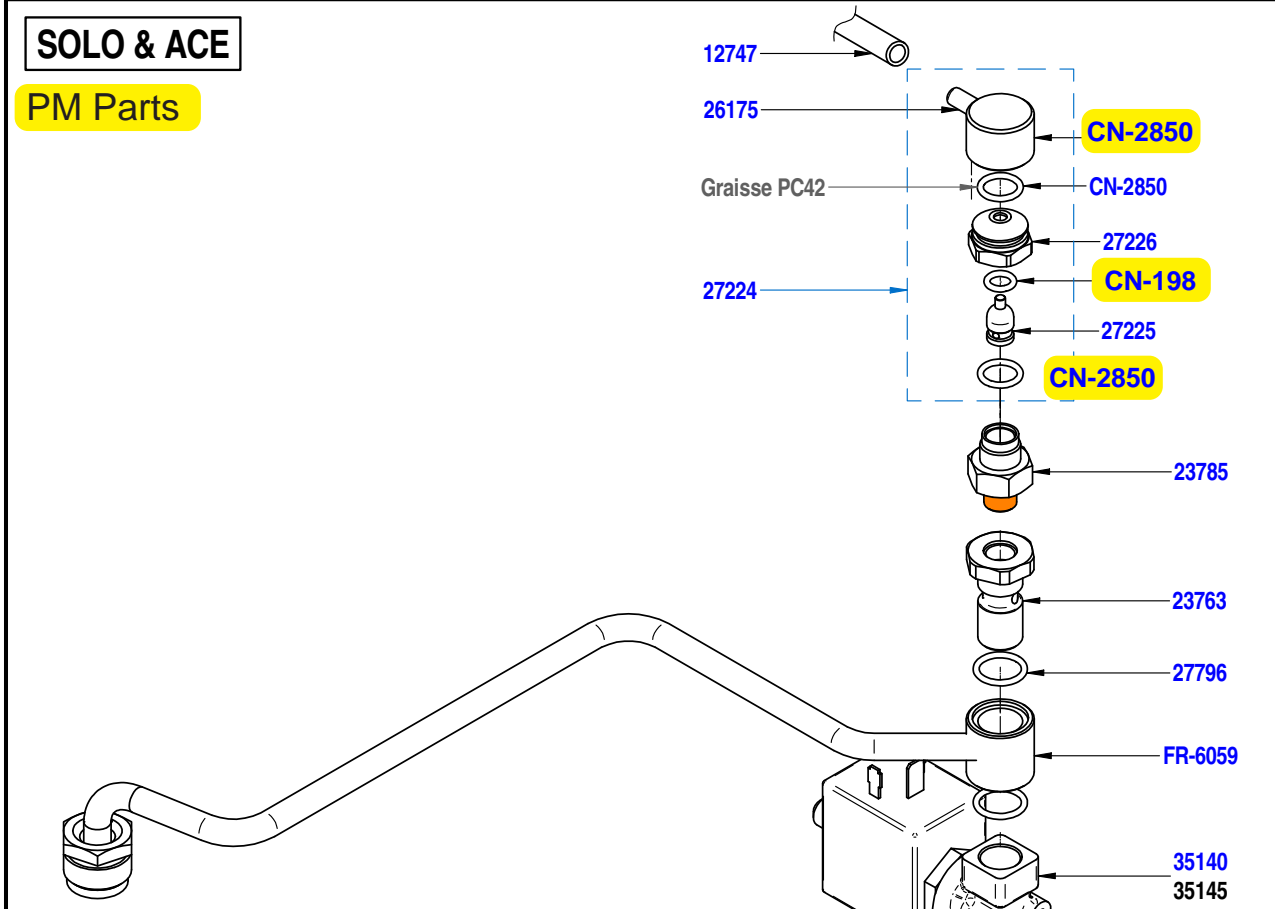
Switch machine OFF and ON with the Technician's USB in place. Then press *Info*.



TT is turntable speed

SOLO & ACE

PM Parts

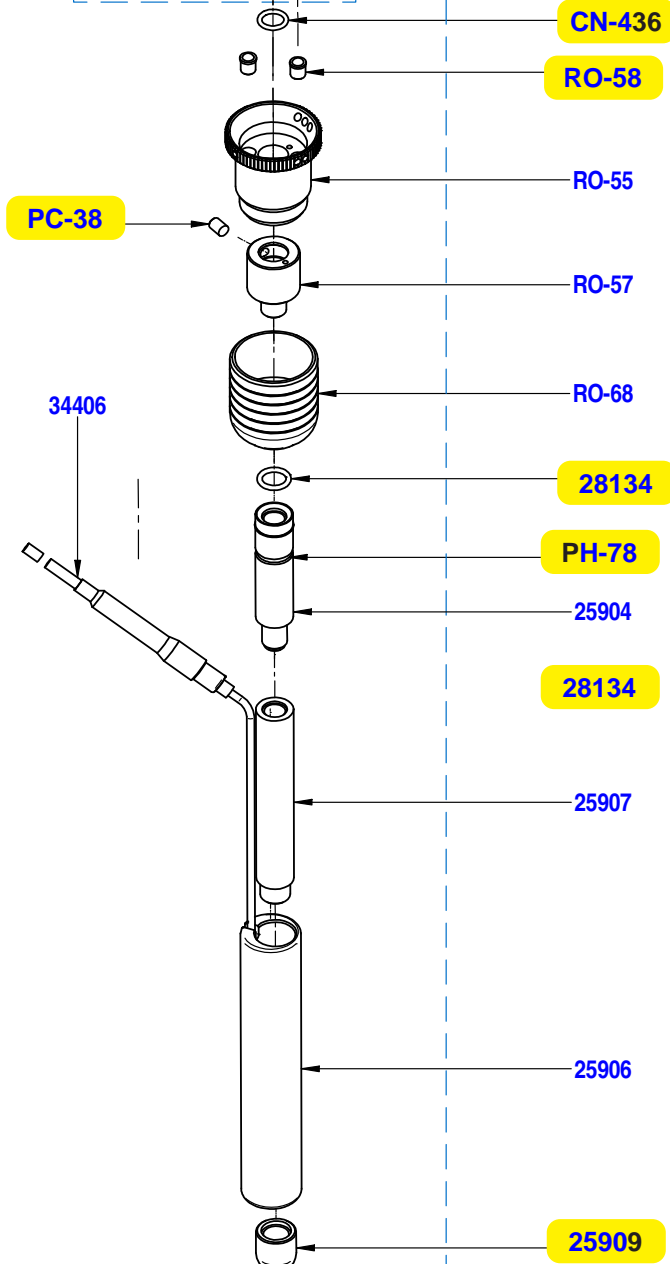


 Loctite 542

PM Parts

FR-1038

RO-59A

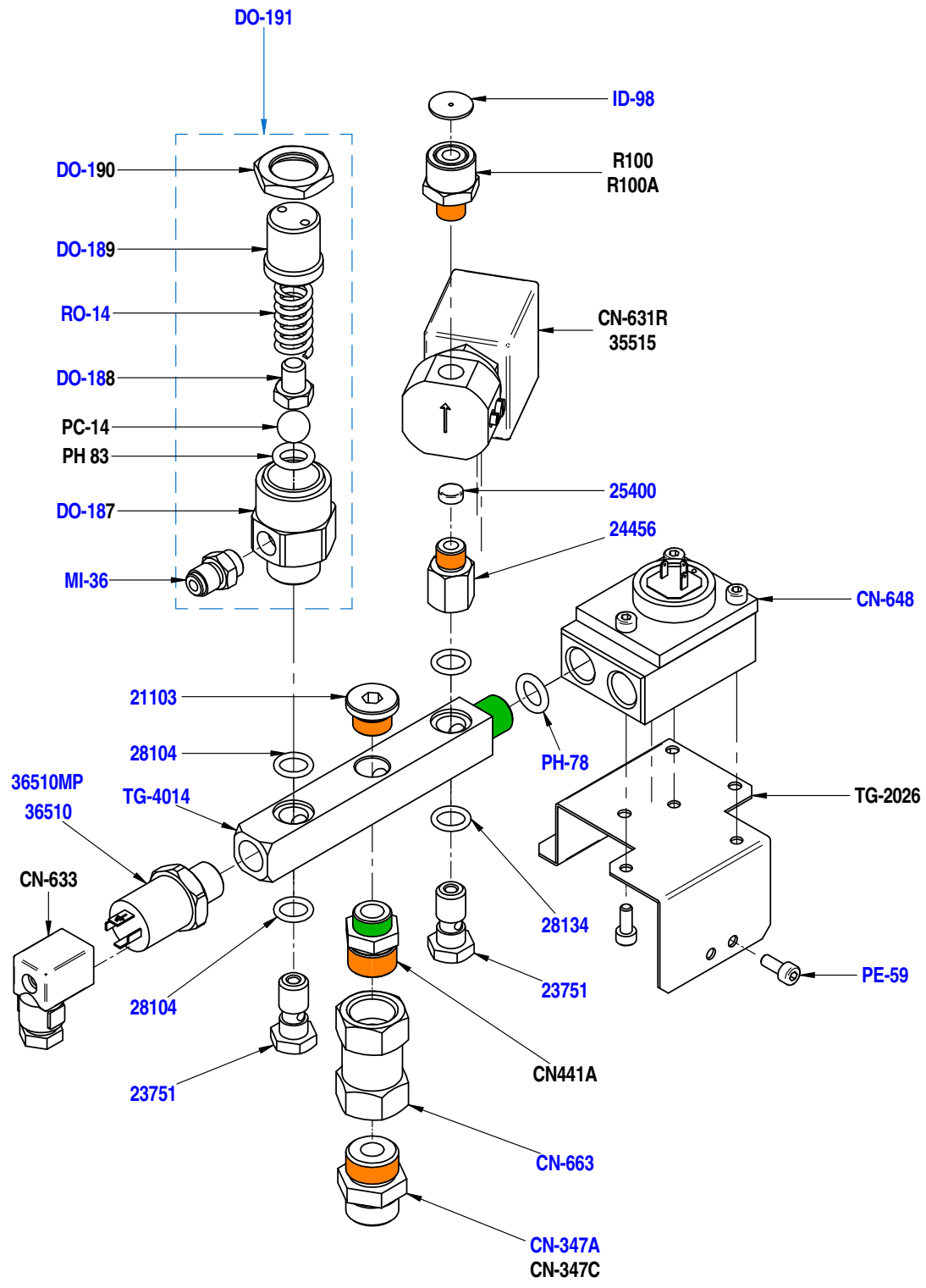


12/18

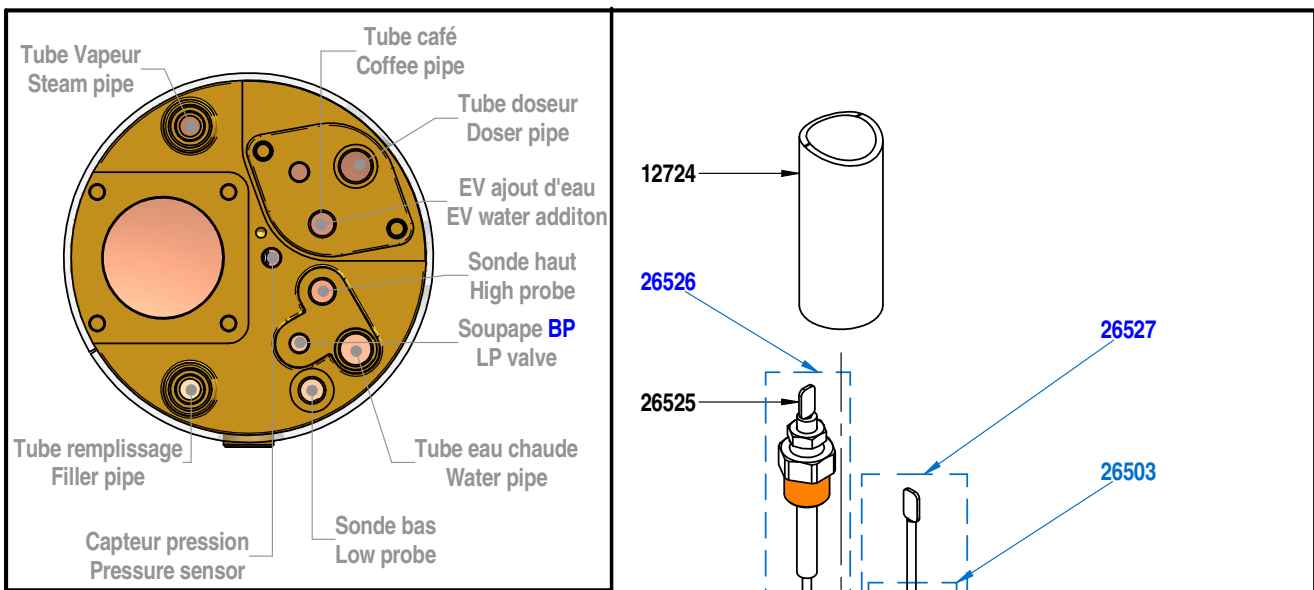
SORTIE STEAMAIR V+
STEAMAIR V+ OUTLET



241



- Loctite 601
- Loctite 542



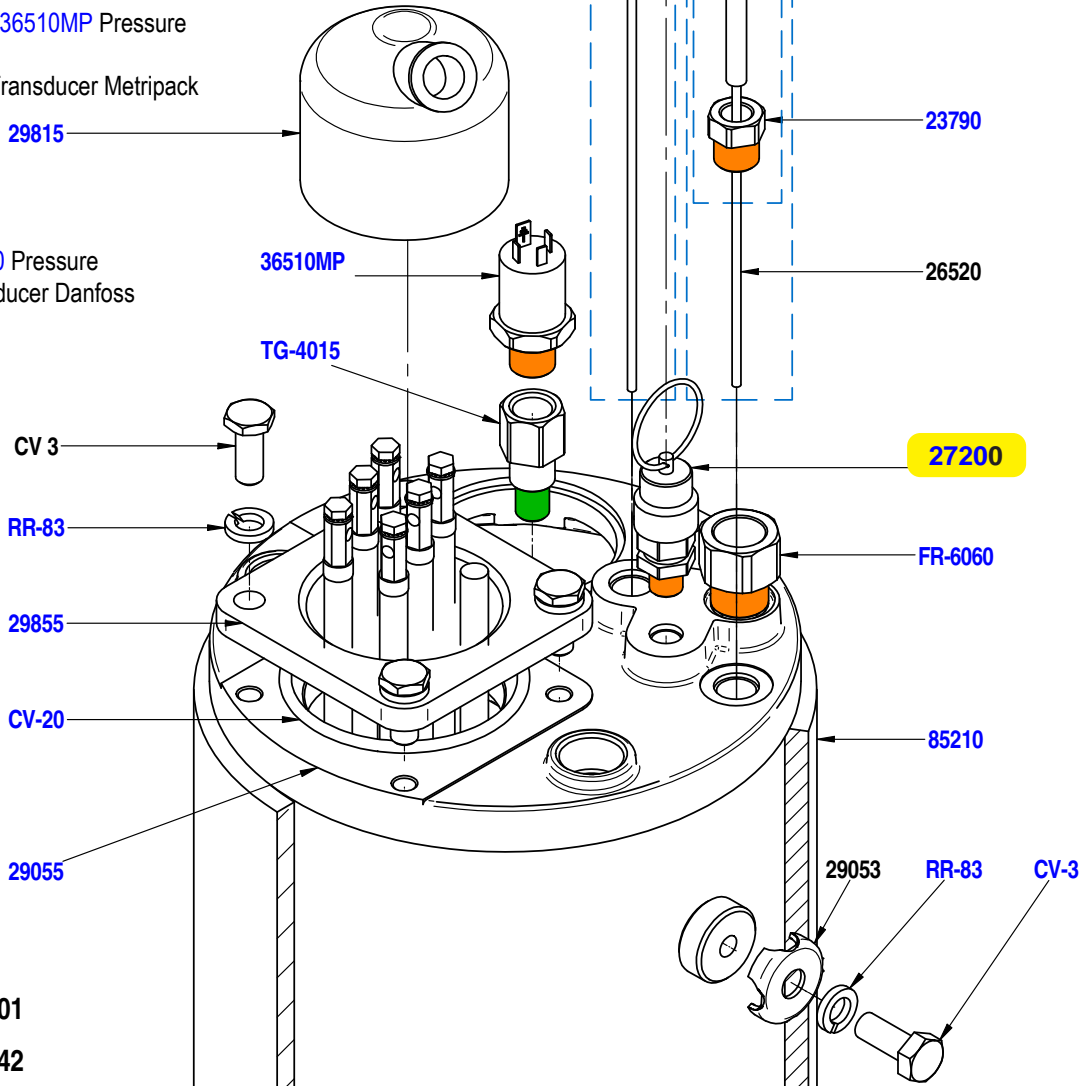
Replace C7 Harness to fit MP
 style connectors
TG-8017MP



36510MP Pressure
 Transducer Metripack
29815



36510 Pressure
 Transducer Danfoss



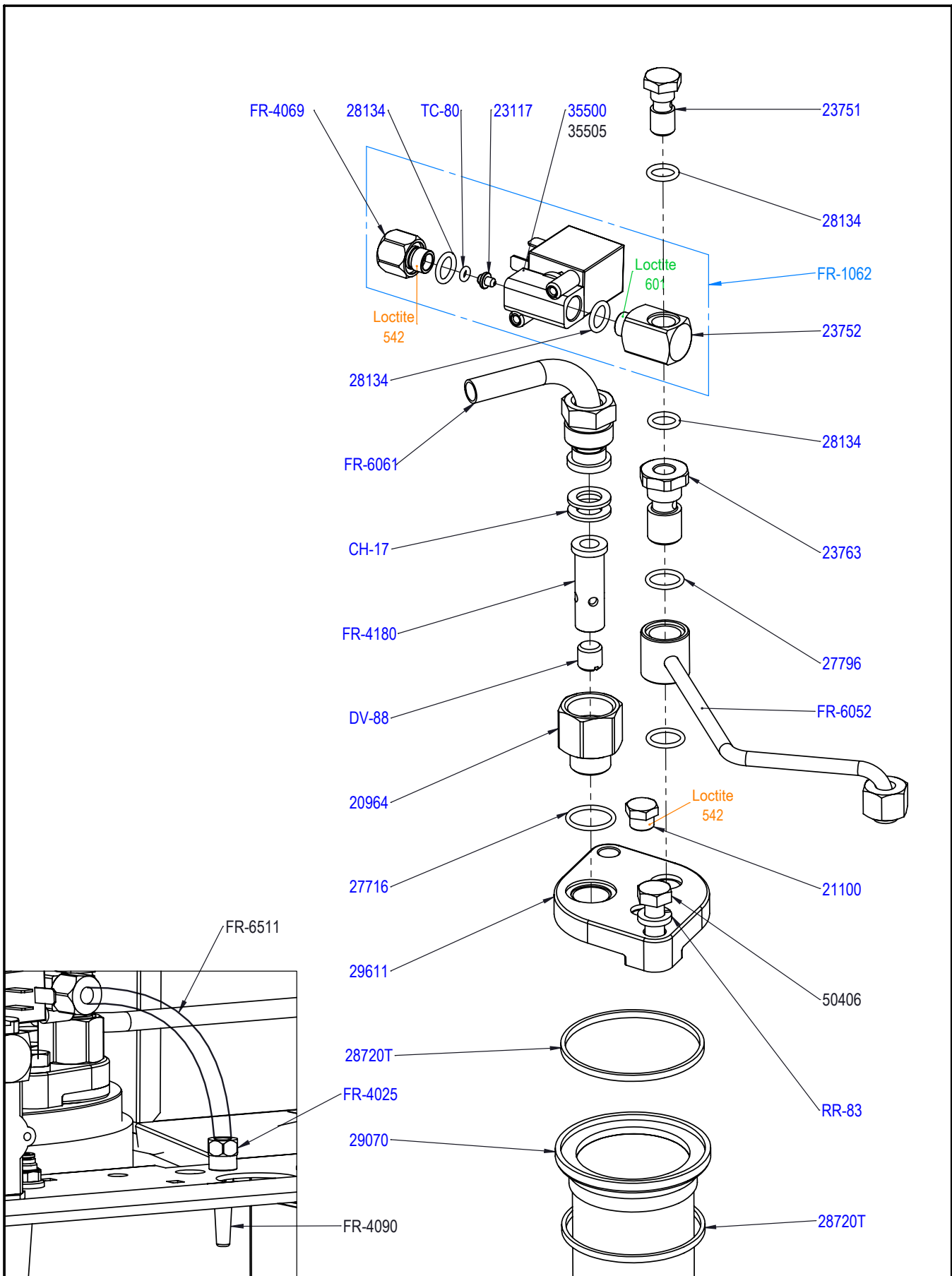
Loctite 601
Loctite 542

12/18

CHAUDIERE VAPEUR-CAFE STANDARD
STANDARD STEAM-COFFEE BOILER

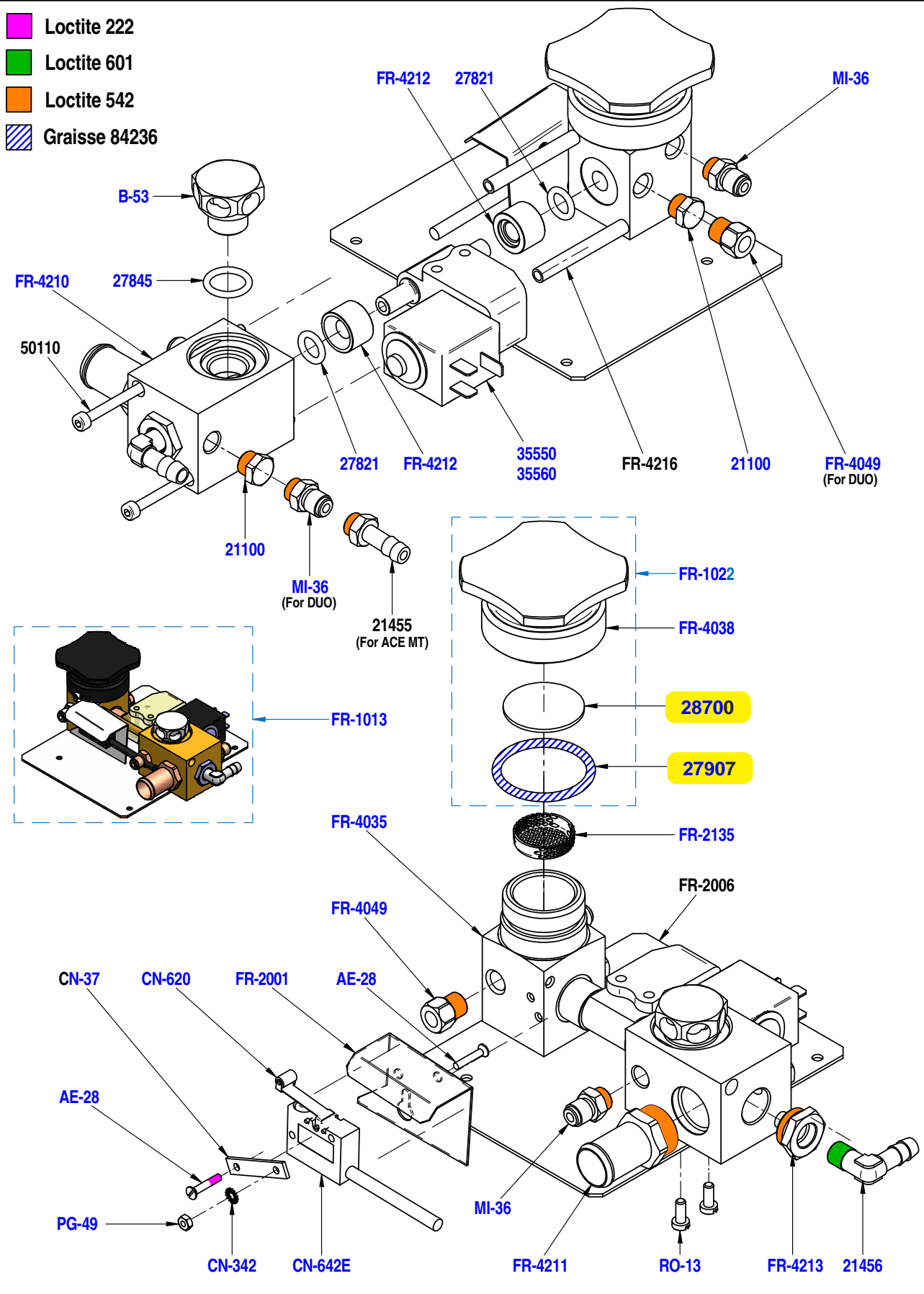


340



12/18	CHAUDIÈRE INTERNE 1GR 1 UNIT INTERNAL BOILER	UNIC	345
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- Loctite 222
- Loctite 601
- Loctite 542
- Graisse 84236

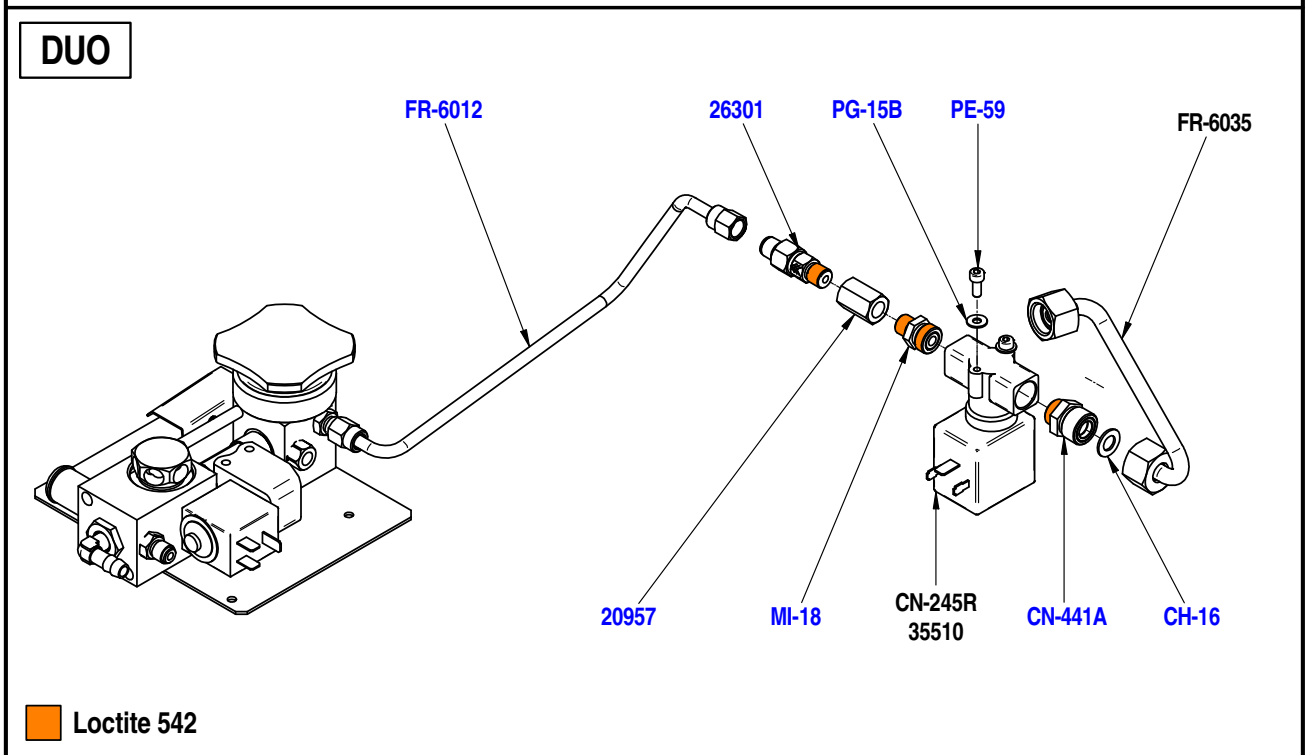
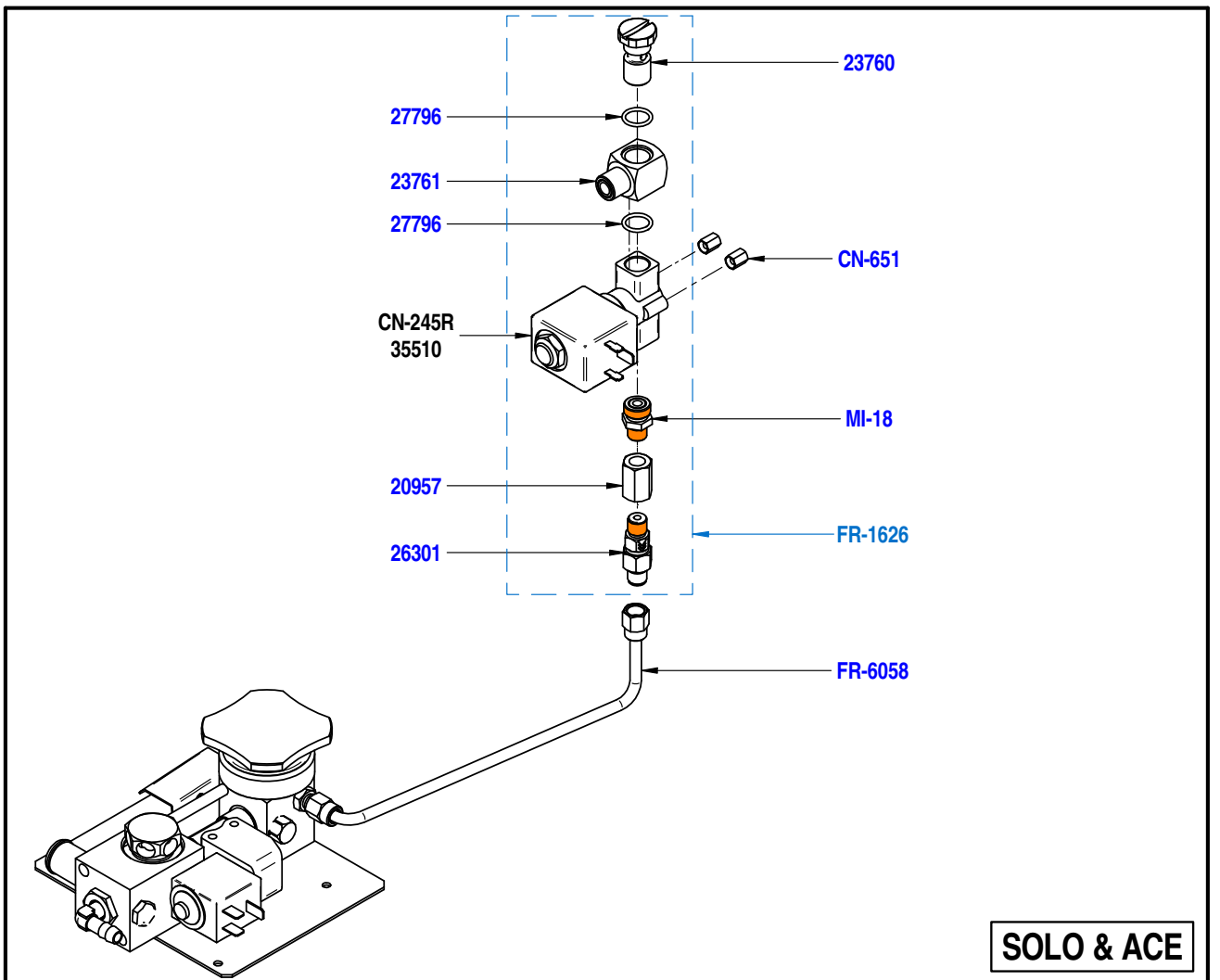


12/18

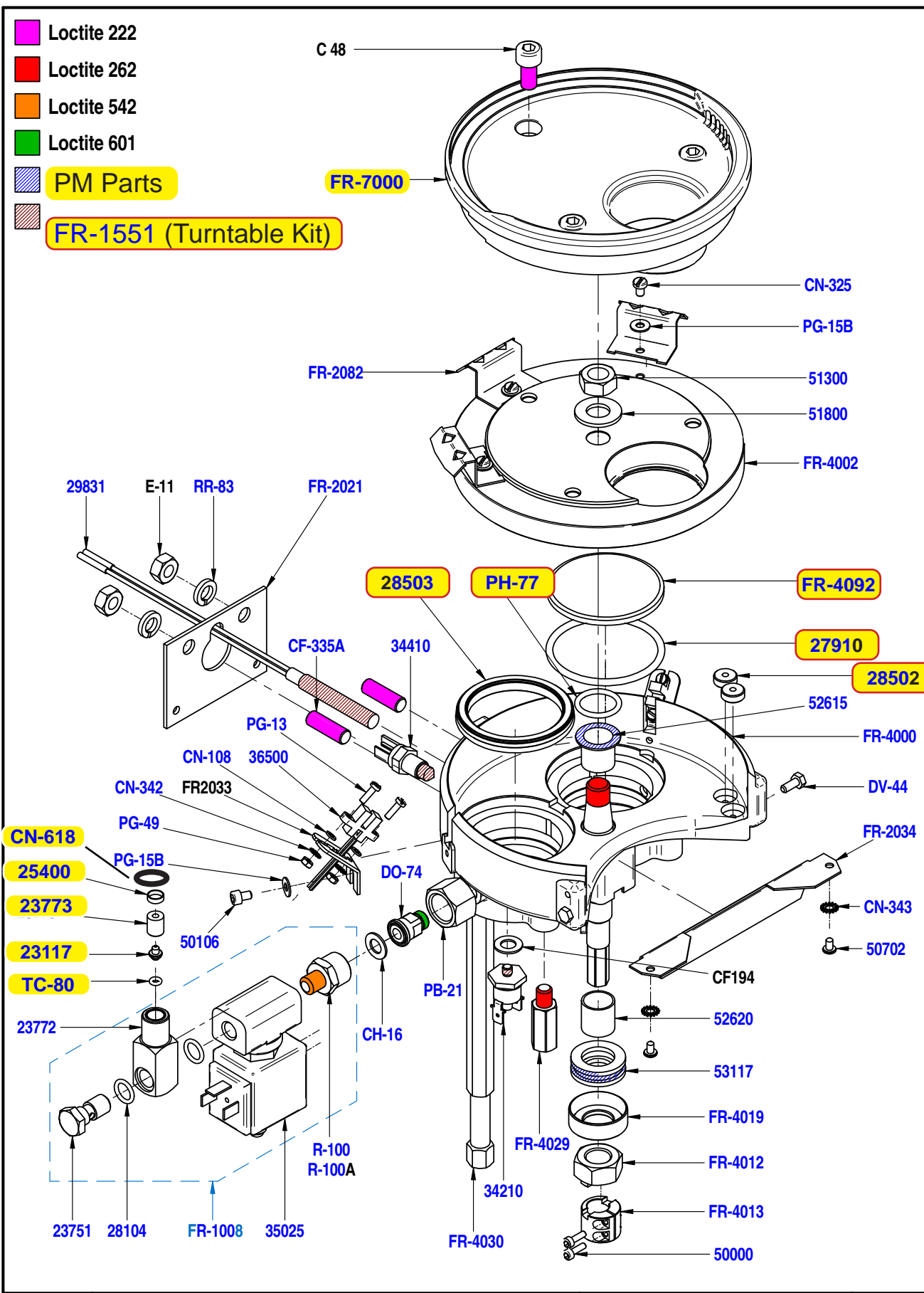
BLOC NETTOYAGE & VIDANGE
CLEANING DEVICE & DRAIN






361



12/18	ELECTROVANNES DE NETTOYAGE CLEANING ELECTROVALVES	UNIC	362
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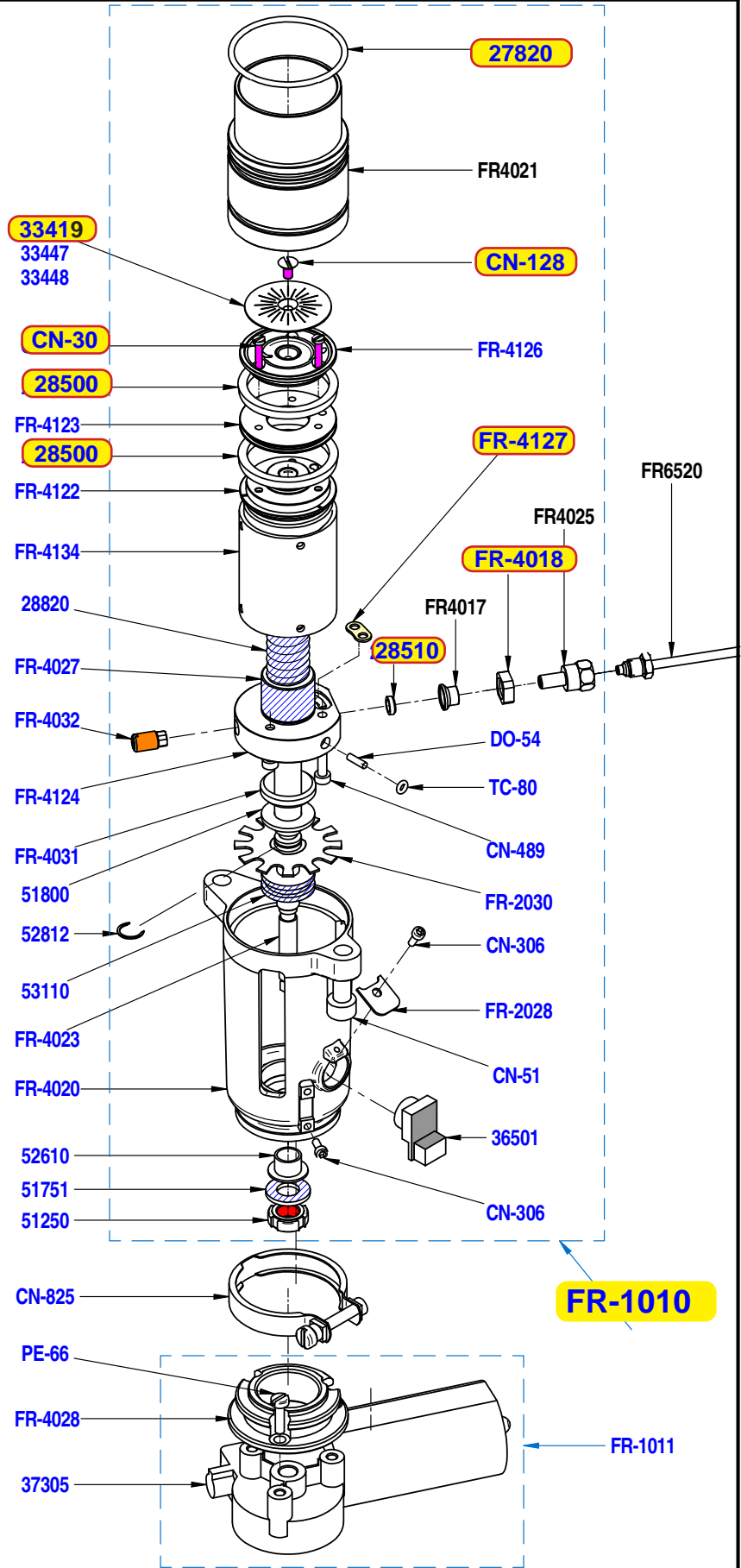
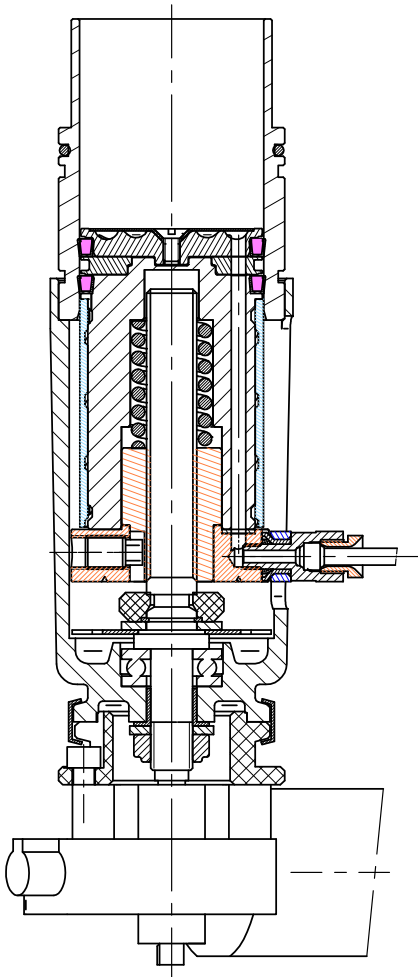


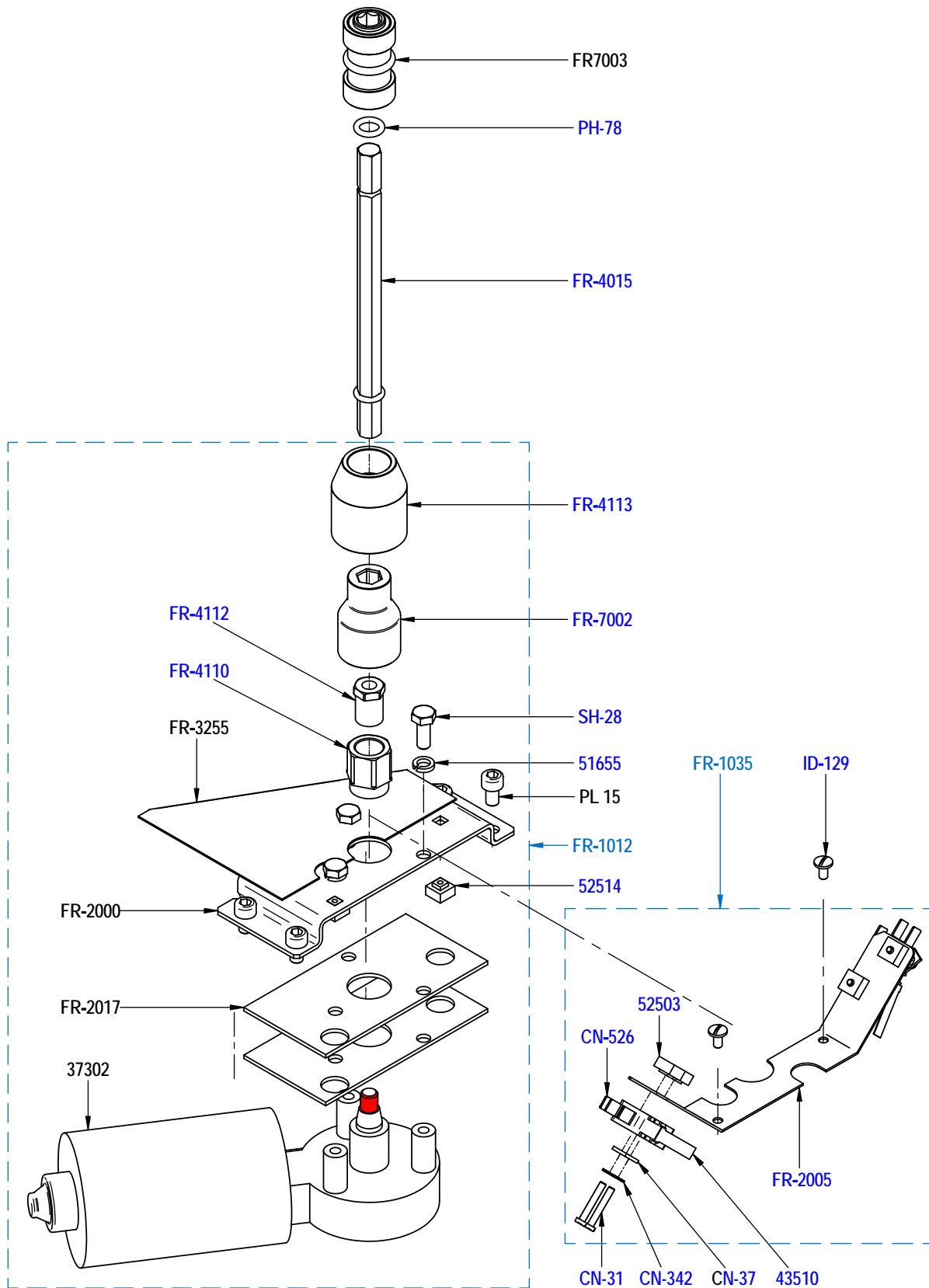
12/18	GROUPE CAFE SANS PISTON (1P) COFFEE UNIT WITHOUT PISTON (1P)		420
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-  Graisse 84236
-  Graisse 8104
-  Loctite 222
-  Loctite 262
-  Loctite 542
-  Loctite 5366

FR-1919 (Piston Kit)

PM Parts





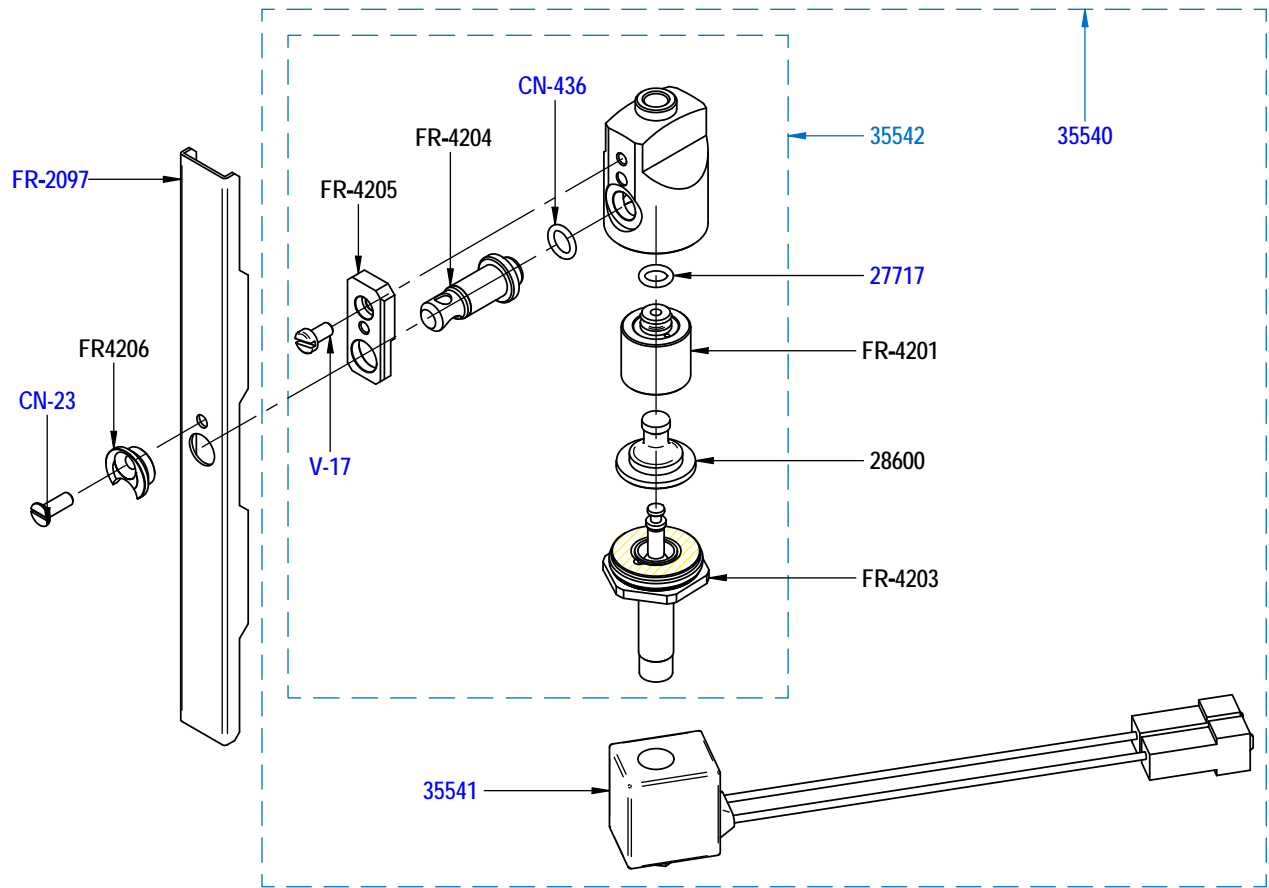
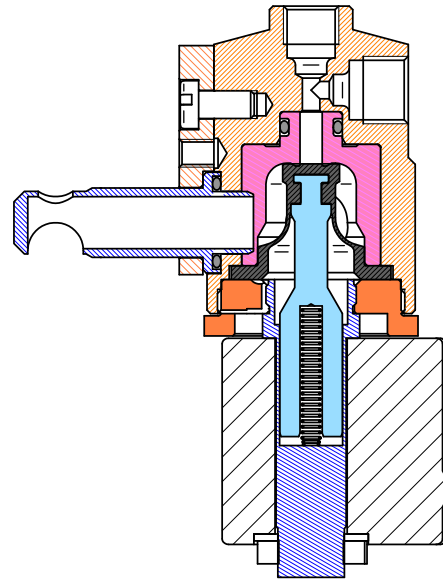
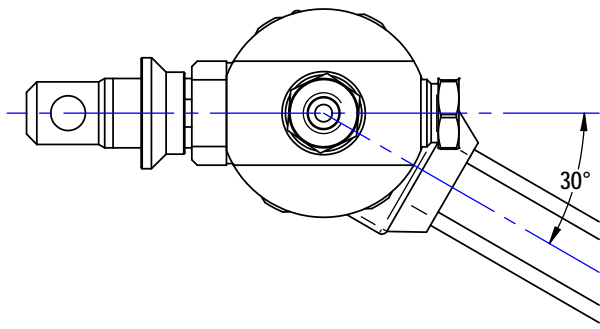
 Loctite 262

03/17

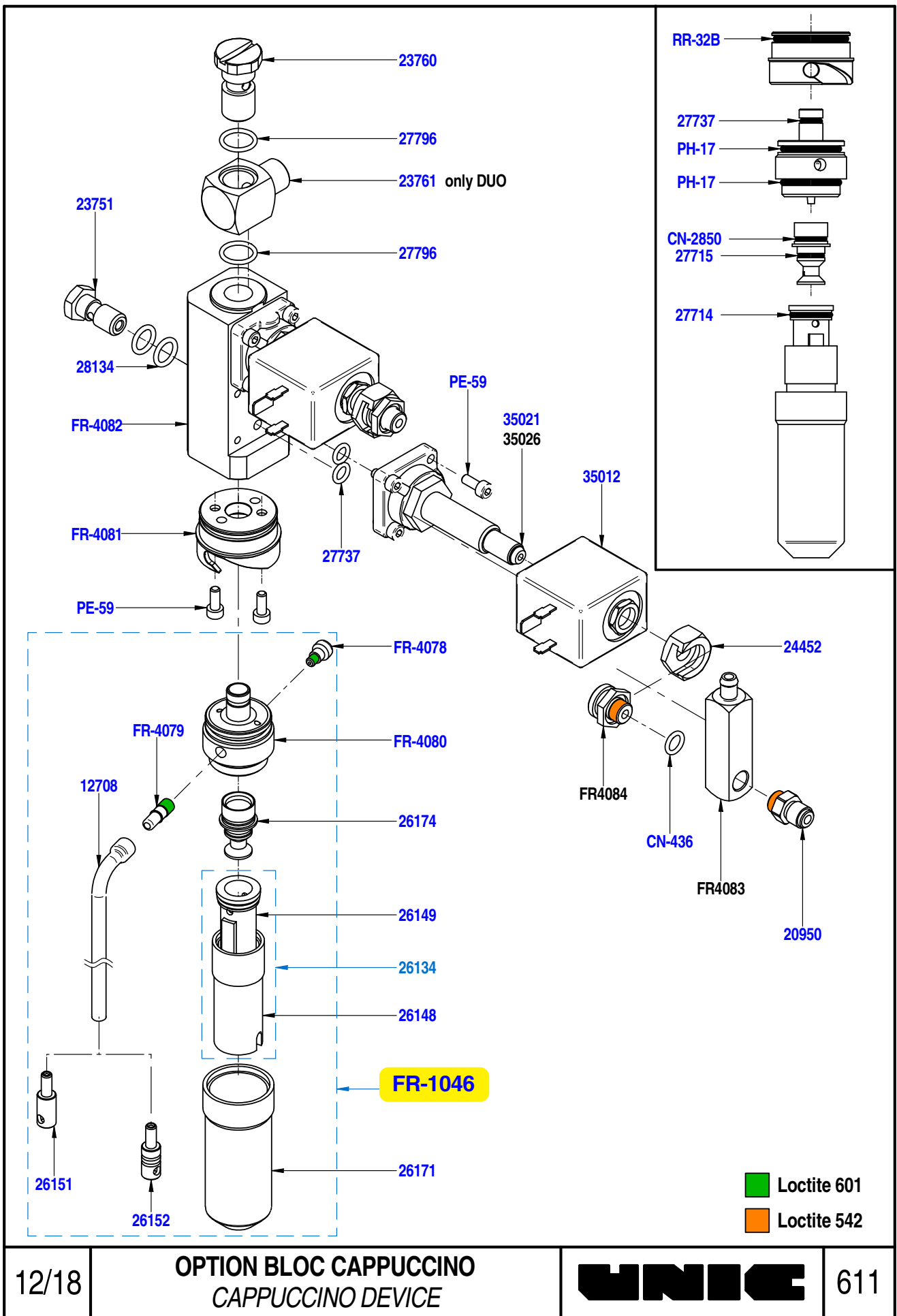
MOTEUR PLATEAU + SECURITE TIROIR
TURNTABLE MOTOR + DRAWER SAFETY

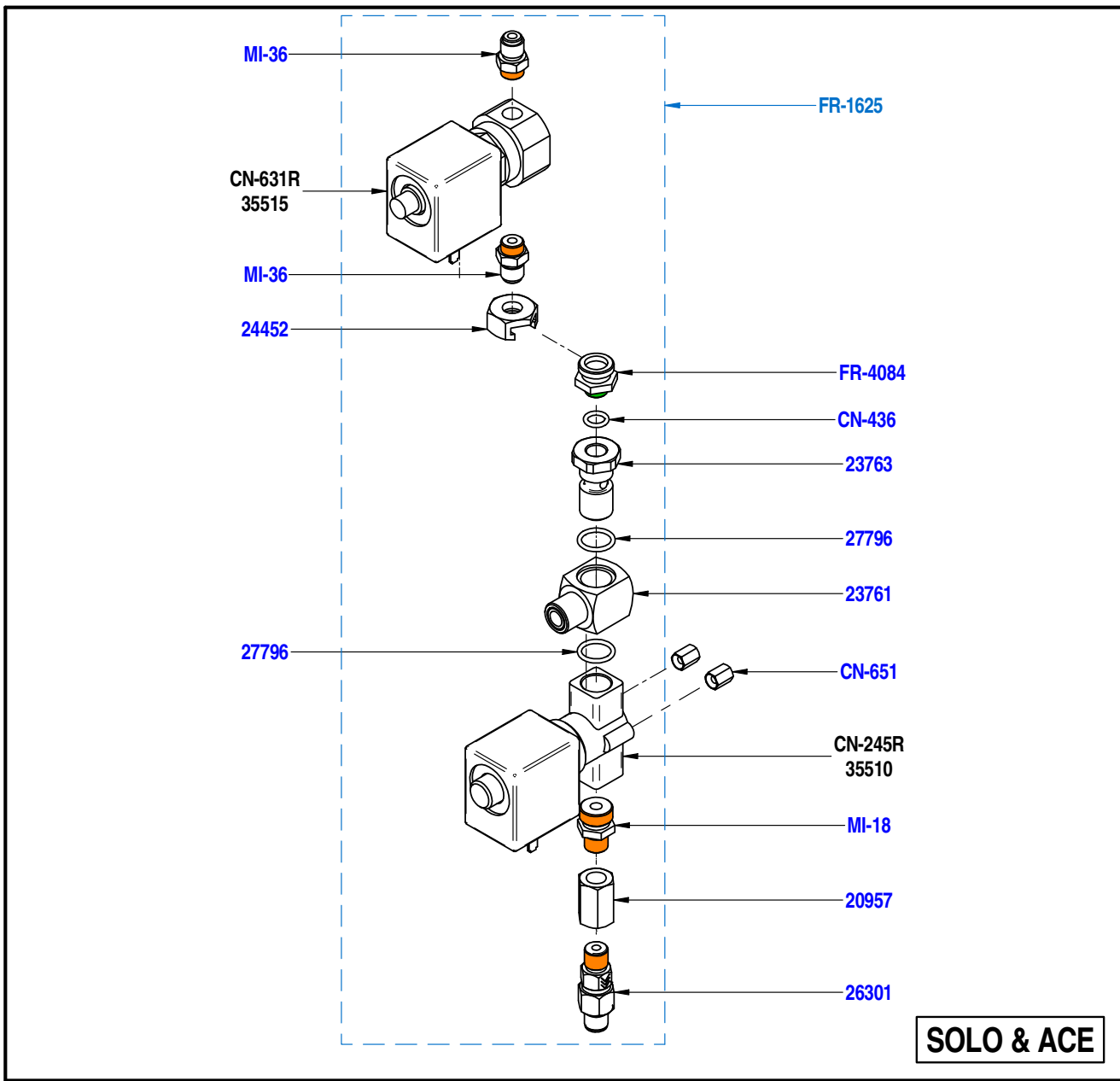
UNIC

430

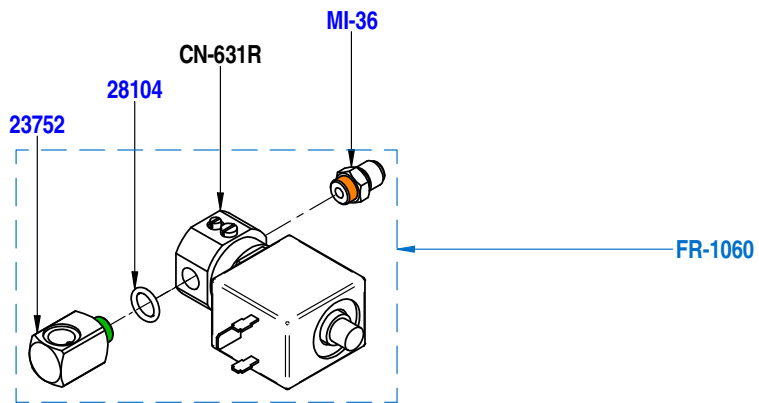


 Graisse 8104





DUO



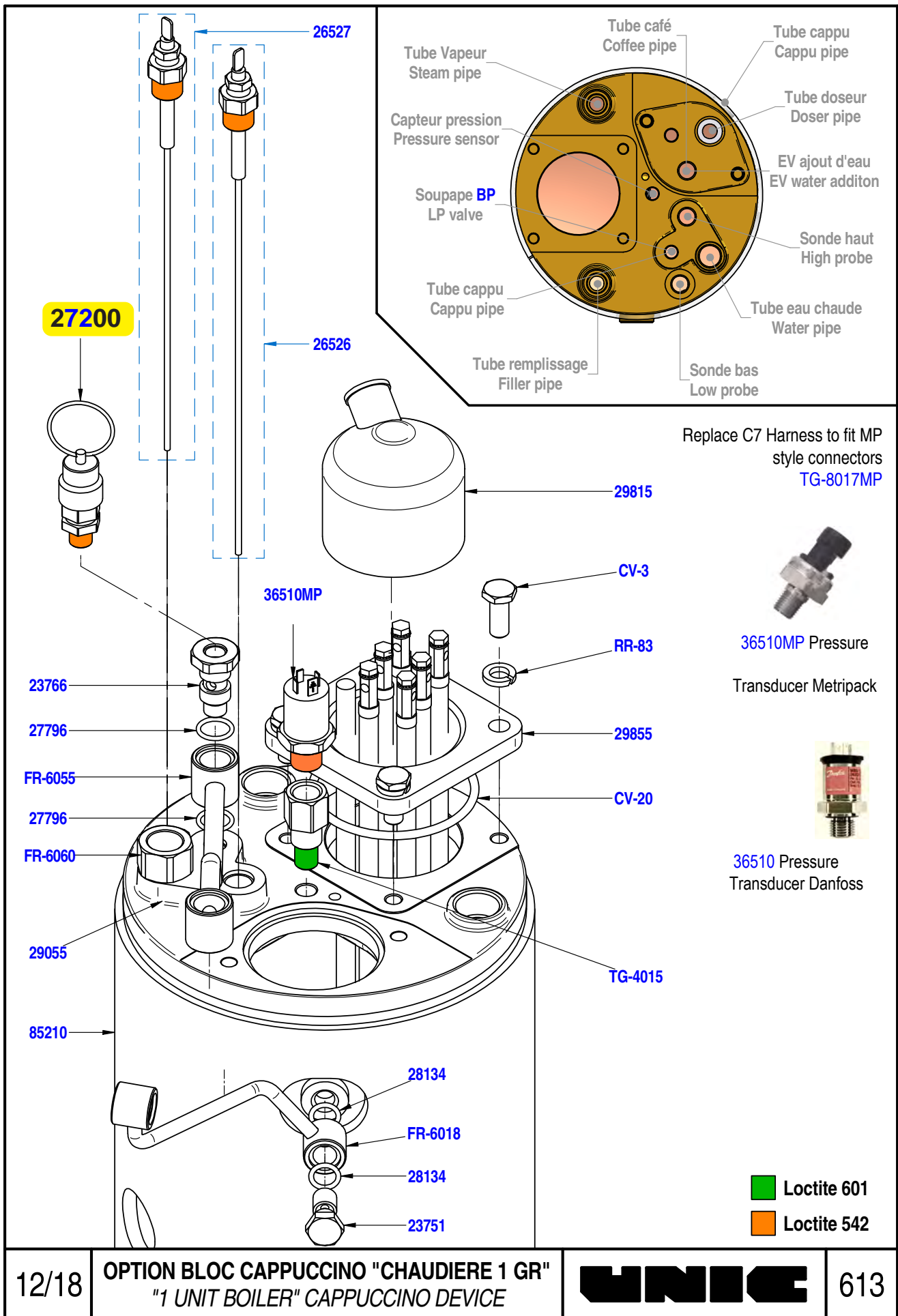
- Loctite 601
- Loctite 542

12/18

OPTION BLOC CAPPUCINO "EV NETTOYAGES"
"CLEANING EV" CAPPUCINO DEVICE



612

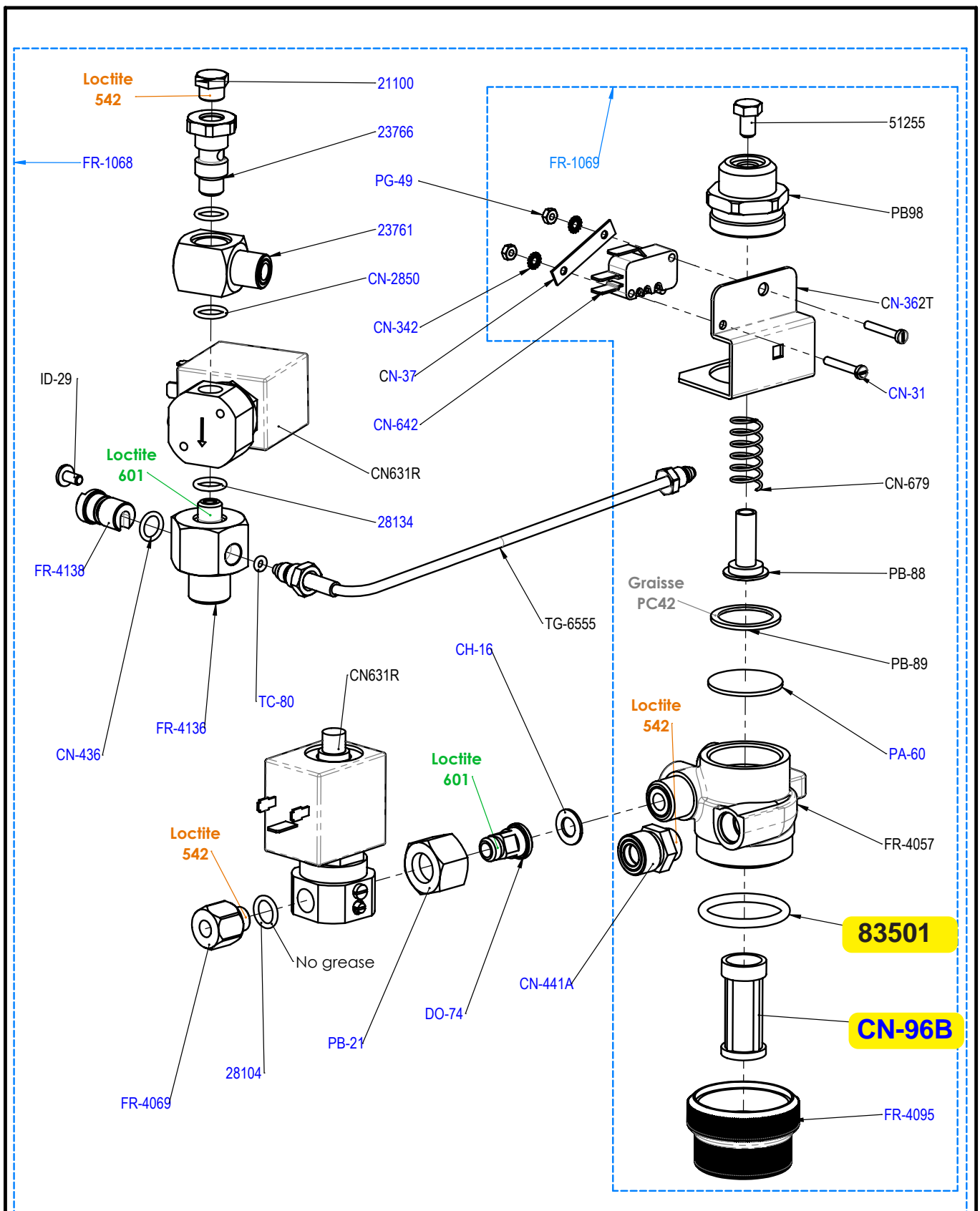


12/18

OPTION BLOC CAPPUCCINO "CHAUDIERE 1 GR"
"1 UNIT BOILER" CAPPUCCINO DEVICE

UNIC

613



Tous les joints sont graissés (graisse silicone 8104)
All joints are greased (silicone grease 8104)

12/18	MITIGEUR EAU CHAUDE HOT WATER MIXER	UNIC	620
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Caution when troubleshooting in service mode Operation Messages are suspended

Machine may be blocked:

Hopper full and drawer switch messages do not display when in service mode. Cleaning request or uncompleted cleaning messages do not display when in service mode.

Uncompleted Coffee cleaning or rinsing may be pending:

(May not display even after Service mode exit)

Switch machine OFF and ON, restart cleaning if needed

Exit Service mode by removing USB and/or pressing the “Home” Icon

Drink Dispensing Screen Problems:

Unable to run coffee drink – Drink icon appears briefly, then disappears

Drink was deleted from “Product Management” list.

The screen menu drinks are screen shortcuts linked to the “Product Management” list.

Solution: Recreate drink in “Product Management” list, Delete and replace old screen menu drink in Key Assignment

Milk Drinks Only: Milk system switched OFF in CIM setting (Common just after a software upgrade)

Solution: Check all setting in CIM, set milk to “LC Venturi” or “Pump”

Steam & water buttons grayed out.

Machine in Demo mode:

#8 top DIP switch on CPU set to “1”, change to “0”

Drink Dispensing Screen Problems cont:

Unable to run coffee drink – Drink icon frozen on screen.

Drink can be canceled with “Stop”

Coffee grams may be set to “0” in Specific Programming

Milk Drink Only: – Drink icon freezes after coffee flow – also freezes after cancel

Must switch off to clear

Milk or foam time set to “0” in Specific Programming

All Drinks grayed out

CPU & Display software versions not compatible, update both to most current version

General Operation:

All Screen Buttons Grey and not functioning

Software versions in Display Screen and CPU are not compatible

Update both using the same USB

Turntable piled with wet coffee

Brew valve exhaust blocked by water in drain

Make sure machine is mounted with slight forward tilt so drain manifold empties.

Machine won't switch ON; main contactor doesn't engage. Toggle switch not lighted

Faulty ON/OFF Toggle switch

Faulty main 10A fuse

Machine won't switch ON; main contactor doesn't engage. Toggle switch lighted

F3 Fuse, 24volts on board

F4 Fuse

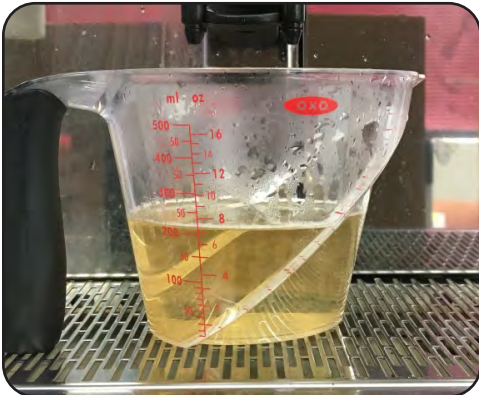
Faulty contactor coil

Drink Dispensing Flow Problems:

Reduced flow from spout when dispensing espresso drink

Piston Water Flow Test:

Remove and replace grounds drawer; spout rinses for 20 seconds



Ace / STP:
20 Second Flow
~225 ml rinse



180-250 ml = Normal flow

150-200 ml = Slight restriction, run a cleaning cycle and test again

Less than 150 ml = Piston clogged.
Remove piston to clean or replace.

No flow from spout when dispensing espresso drink:

Clog in coffee system (Gicleur Jet, brew valve, piston, or spout)

- Clog caused by improper cleaning tablets or cleaning in the morning instead of at end of day.
- Wet grounds on turntable area falling back into piston brew chamber
See Grounds Spilling section at end of this list
- Make sure machine is mounted with slight forward tilt so drain manifold empties.
- Scale in Gicleur Jet

No flow from water adding valve (Americano) and No coffee from spout

Check Flowmeter for clog

Only water from spout after when dispensing espresso drink:

Does grinder run?

No – troubleshoot grinder power

Yes – Check following:

Hopper gate not open

To open push hopper lever to the right on the larger hopper or forward on the decaf side

Hopper empty or coffee oils causing the beans to stick to the sides

Fill hopper. Stir beans to unstick. Remove and clean hoppers if insides are sticky.

Coffee grounds spraying on turntable area and not reaching piston

Drink overfills, extraction runs 90 seconds and stops.

Flowmeter unplugged, faulty, or faulty wiring connection to flowmeter

Code 81: DOG Left flowmeter blocked

Cleaning Cycle:

Buzz during cleaning

Pump buzzing - Check for restricted water flow to machine
Replace the non-return valve after coffee cleaning valve

Cleaning tablet not dissolved

Blocked cleaning non-return valve
Coffee Cleaning valve: Clogged, not getting power, or coil not working

Requests another Cleaning immediately after Cleaning cycle complete

Low water pressure, pressure dropped during cleaning
Water switch not reading, bend bracket down to ensure activation
Grounds drawer switches not closing

Asks to re-start Cleaning before Cleaning cycle complete

Low water pressure, pressure dropped during cleaning
Water switch not reading, bend bracket down to ensure activation
Grounds drawer switches not closing

Stuck on the cleaning progress bar

Switch ON OFF does not clear

Water is shut off during cleaning
Another fault appears during cleaning
After exiting standby mode

Turn off the cleaning commands to cancel cleaning cycle and restart cleaning:

- switch off the machine
- move DIP switch #6 to ON
- restart the machine
- restart cleaning
- return to the main menu

Restore normal operation:

- switch off the machine
- return the DIP switch to normal position (all switches OFF)
- switch on the machine

Screen Messages:

“No Communication – Touch to proceed”

ICU board unplugged

New ICU board has no software installed, try loading software

Replace ICU

Left Milk Level Add Milk

ST/Ave: 2 gray jumper loops on CN1 bypass future milk level sensor

UNO/Solo: 3 gray wires on CN1 must be jumped together (are inside sleeve)

Brew group temperature reads ~-630F

Temperature probe disconnected on rear of Turntable

Code 1 – No reading from Steam boiler filling probe during normal operation

Located in center top of steam boiler

Restricted water flow to machine

Filling Valve blocked

Valve driver board unplugged

Code 2 – Steam boiler filling timeout on startup (Pumps runs)

Restricted water flow to machine

Filling Valve blocked

Valve driver board unplugged

Code 3 – No reading from Steam boiler low level safety probe during normal operation

Located on left top of steam boiler

Restricted water flow to machine

Filling Valve blocked

Valve driver board unplugged

Code 4 – Turntable rotation timeout message

Waste drawer removed during drink cycle or cleaning or drawer not fully seated

TT Turntable bearing setting too tight (above 210)

Loose wire on either turntable position sensor (or sensor unplugged)

Blown fuse F4, Primary of the transformer

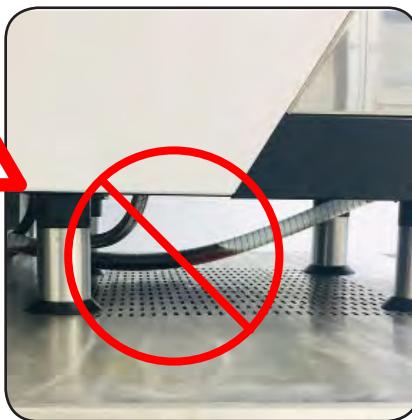
High AMP draw from piston or turntable motor

Service Piston or Turntable if dirty

Grounds spilling onto the turntable area:



Use the provided shims on the rear legs if necessary to level the Tango. Angled slightly forward is also OK



Back pressure in the drain line will cause problems with the brewing system.

Drain:

Tango must be installed level or angled slightly forward!

Install the drain line running continuously downward so that no “trap” is formed.

The brew valve exhaust tube must be free to vent the built-up brewing pressure before the turntable opens the brewing chamber.

Grounds are ejected from the top of the chamber if the pressure is not released.

Group Temperature set too high at elevation above 2000F

The brewing water may flash boil when it reaches the piston, the released steam can carry the grounds up and out of the piston.

Start at 94°C, reduce more if at elevation.

Group temperature must be at least 4°C below local water boiling point.

Ground Coffee overflowing the brewing chamber

Check that the programmed dry grounds dose does fill the piston above the top rim.

Coarse grind adjustments will cause the dry grounds to take up more room.

Complete grinder calibration for correct ground coffee dosing.

Advanced: Back off the tamping before extraction for 18 gram dose

Water needs room to flow above the coffee grounds. The coffee grounds will also expand during extraction. A default amount of back off is already in place.

More back-off may be needed with larger ground coffee weights.

Use the RR setting for Solo/Uno: -4 backs off 1 mm. -8 backs off 2 mm.

Use Encoder recul for Ace/ST:

Piston Water flow test



Measure the water flow through the Piston during the spout rinsing cycle.

Clean or replace the Piston if the flow is restricted.

Remove and replace grounds drawer to start the rinsing cycle.



Press and Hold YES for 3 seconds to start the rinsing cycle



Ace / STP:
20 Second Flow
~225 ml rinse
←

180-250 ml = Normal flow

150-200 ml = Slight restriction, run a cleaning cycle and test again

Less than 150 ml = Piston clogged. Remove piston to clean or replace.

TANGO[®] ace

Coffee System Cleaning Instructions

UNIC
ESPRESSO ENGINEERS



Clean coffee with tablets everyday

The Tango has an advanced cleaning system that requires specially formulated tablets

Use only UNIC brand cleaning tablets.

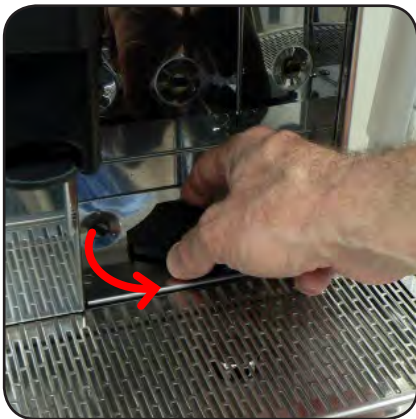
UNIC #92025 100 tablets/jar



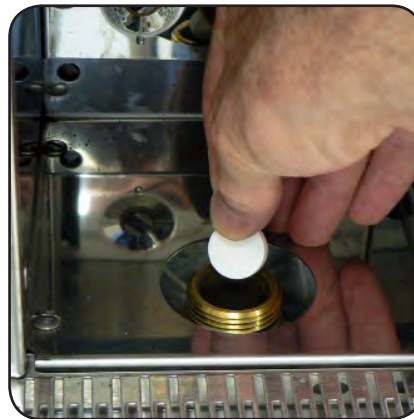
UNIC #92025



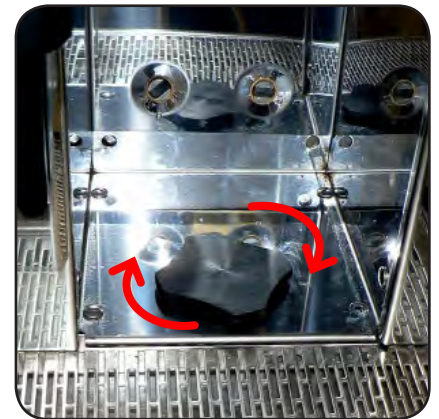
Remove Waste Drawer



Unscrew Cleaning Cover



Insert 1 Unic Tablet
2 Tablets for Duo Version



Replace Cleaning Cover
Do Not Over-tighten!



Replace Drawer



Confirm Drawer Empty
Press YES for 3 seconds



Cleaning Starts Automatically
The cycle lasts
10 minutes

SteamAir Wand Operation

Automatic Milk Steaming:

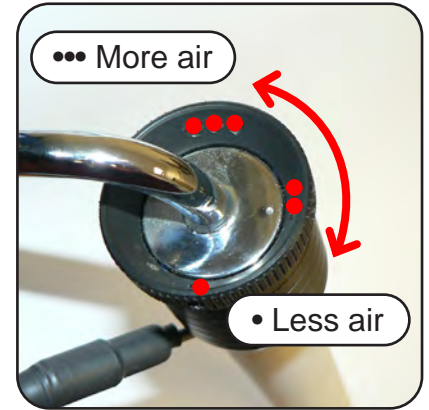
More air creates lighter foam with larger bubbles
Less air creates denser foam with smaller bubbles



Steam Wand should be centered in the pitcher
Tip must be at least 1" below surface of milk



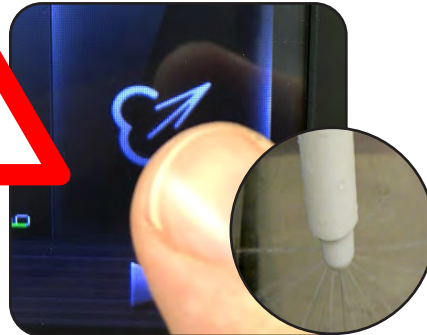
Press SteamAir Button
Steam will automatically shut OFF at the pre-set temperature



Turn the adjusting collar to vary the amount of air in the milk

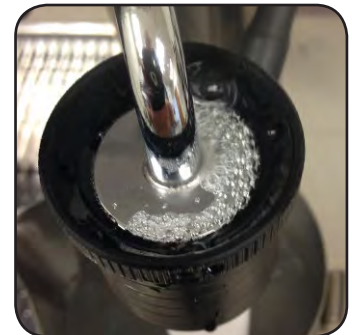
The SteamAir wand MUST be wiped and purged after each use to prevent milk build-up

*Steam or Water leaking from the top of the wand ?
No Foam in milk?*



Remove the pitcher and wipe the wand and tip with a clean, damp towel.

Press the Steam or the SteamAir Button ON then OFF to purge



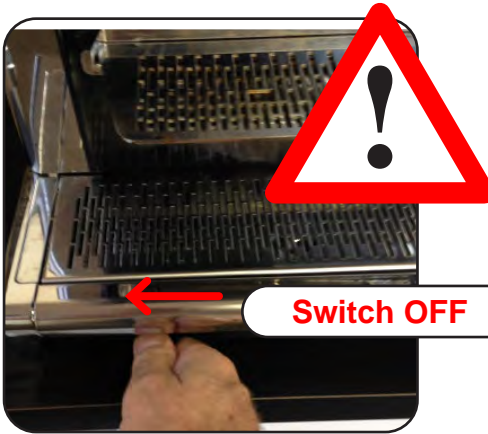
*Steam tip is clogged with milk
See next page for cleaning instructions*

Remove and clean the steam tip daily!



SteamAir Wand Cleaning

Clean the Steam Tip everyday or if steam leaks from the top of the wand



Switch OFF

The SteamAir Wand may be removed for cleaning if it has heavy milk build-up



NEVER soak in cleaner!

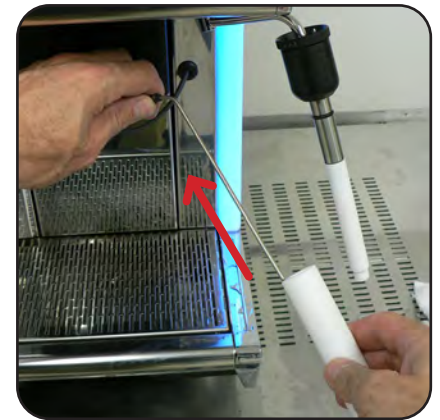
Switch the machine OFF before removing the Wand!



Unscrew Steam Tip



Remove Outer wand



Remove Temperature Probe

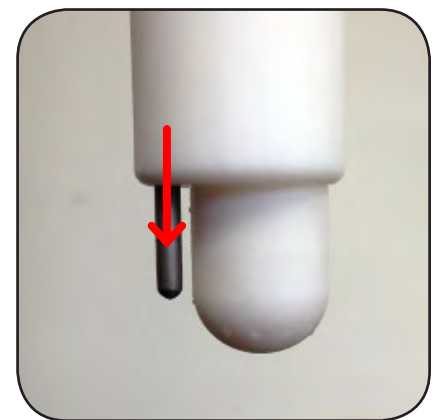


Wipe Temperature Probe and Inner wand



Clean Outer Wand and Steam Tip in sink

Make sure steam tip holes are clear!



Make sure the probe tip is pushed all the way down when reassembling



The Tango Milk Foamer must be removed and cleaned at least once per day!

Use only acid formulation RINZA
UNIC #12RAF32 32 OZ



Remove Milk Foamer



Remove the magnetically mounted spout



Unlock the Foamer by twisting it to the right



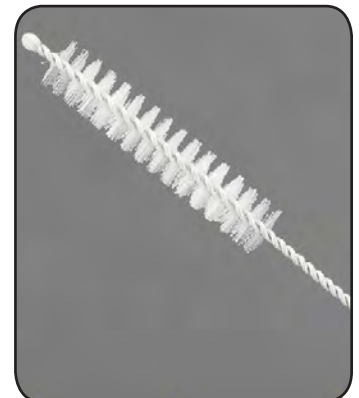
Remove the Foamer by pulling down



Soak the foamer parts in RINZA cleaner
Follow label mixing directions

Clean the nozzles with Unic cleaning Brush

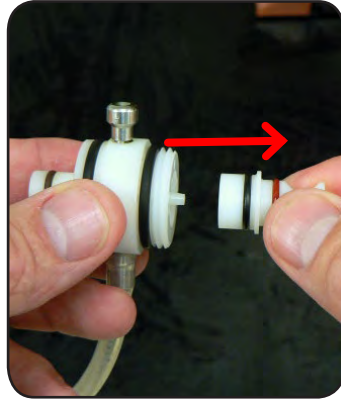
See other side for cleaning details!



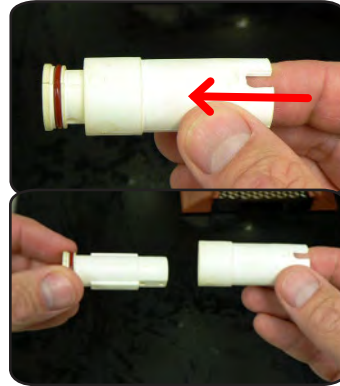
Milk Foamer Cleaning



Unscrew the Foamer Cover Tube



Pull out the Nozzle insert



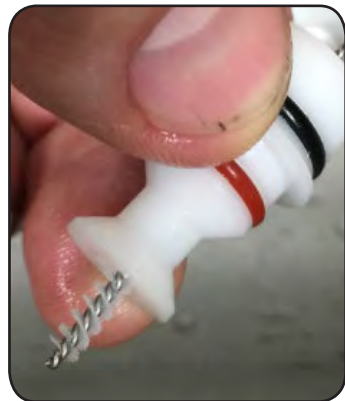
Push the Insert out of the Center Tube



Every Day!



Soak the parts in Rinza solution for 5 minutes



Use the brush to clean the Nozzle insert



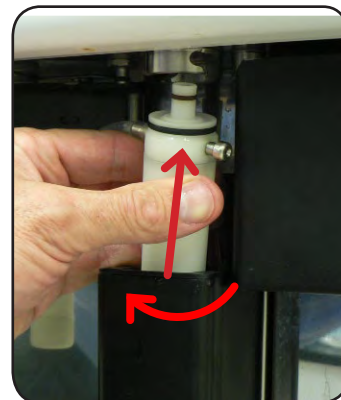
Also clean the Main Milk Jet



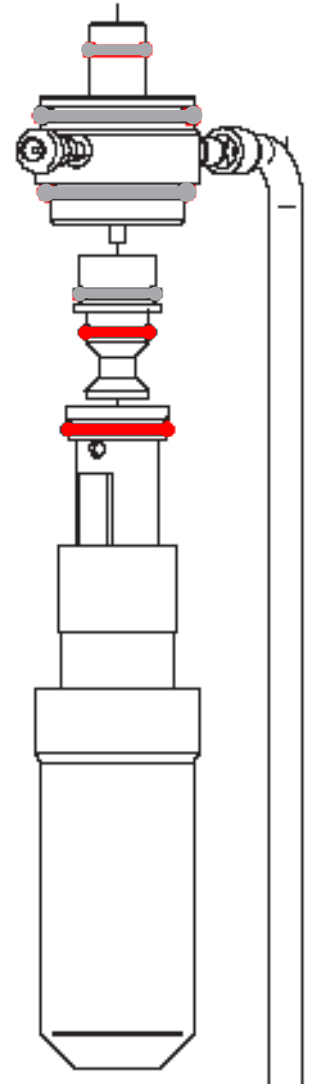
Rinse all parts before re-assembling



Rinse the Spout



Re-assemble and re-install the Foamer and Spout



WNIIC

ESPRESSO ENGINEERS

TANGO® ST



Thank you for choosing UNIC, the first French manufacturer of professional espresso machines since 1919.

The manufacturer reserves the right to modify the appliances presented in this publication without notice.
Read carefully the safety instructions before use.

Notice applied to Tango ST Duo and Tango ST Solo

TG9016 07/2019

UNIC

TECHNICAL NOTE

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1-SAFETY INSTRUCTIONS

This device is intended to be used only for its specific use.

The manufacturer disclaims any liability for damage caused by abnormal use or abuse.

Children 8 years of age or older and persons with reduced physical, mental or sensory abilities, or lack of experience and skill may use this device, if supervised by a qualified person, or they have received the instructions for use and security necessary to understand the risks involved.

Supervise children to make sure they do not play with the appliance and they can't make the cleaning & maintenance of the machine.

Do not leave the packaging elements within reach of children. These elements are potentially a source of danger.

The installation must be done by a qualified technician and following local and national regulations. He is the only one to be authorized to access the internal parts of the device for maintenance and repair.

Use only the technical and spare parts manuals for proper functioning of the machine, and avoid compromising safety.

Access to the service area is limited to persons with the necessary knowledge of safety and hygiene as well as practical experience of the device.

Leave enough free space around the machine to facilitate its use and to perform any maintenance operations.

The device **must not be**:

- exposed to the elements of the external environment or placed in damp places,
- exposed to a water jet or splashing.
- installed in areas where the jets or high pressure cleaners are used.

The device **must be**:

- placed on a stable, level and horizontal surface
 - used at an ambient temperature of 5°C to 35°C (41°F - 95°F), (if it is stored at an ambient temperature below 5°C (41°F) the water circuit (boiler-piping) must be drained.)
 - if the device freezes, wait 24 hours at a minimum temperature of 10°C (50°F) before restarting the device.
- Before connecting the power and water supplies, check that the electrical and water network are in accordance with the technical information plate of the device.

The power supply must be provided with the following safety features: power switch which completely isolates the machine from the mains (gap between contacts of at least 3 mm), efficient earthing and an effective circuit breaker for protection against earthing leaks; section of the conductors appropriate for a power capacity.

Before connecting or disconnecting the power cable, switch the main switch onto position 0. If the power supply cable is damaged, it must be replaced by the manufacturer, by its after-sales service technician or similarly qualified persons, to avoid any danger.

For electrical safety, make sure that the device is properly earthed.

The manufacturer disclaims any liability for damage caused by improper earthing.

The device must be connected to a water network with a pressure of 1 to 8 bar (0.1 to 0.8 MPa) and a tap readily accessible must be fitted in front of the water supply tube. The device is to be installed with adequate backflow protection to comply with applicable federal state and local codes.

In case of emergency (fire, surge, abnormal noise, etc. the first thing to do is to cut off the current and close the water tap.

Be careful not to obstruct the air inlets of the machine with towels or other objects.

Beware of hot surfaces such as cup heaters, the unit heads and the hot water and steam outputs.

Never install containers filled with liquid on the top of the machine.

Beware of jets of hot water or steam.

The machine should be descaled only by a qualified technician.

2-STANDARD VERSIONS

► TANGO SOLO ST

DIMENSIONS	
Width	45.3 cm 17.7"
Height	75.3 cm 29.5"
Depth	63 cm 24.8"
WEIGHT	
	100 kg 220 Lbs
CAPACITIES	
Steam / coffee boiler	6.5 liters
-	-
Coffee grounds tray	100 coffees
Numbers of cups / hour	+250



STANDARD				Power	
Country	Rep	Voltage (V)	Current	Total	Boiler
Philippines	0	415V tri + N 60Hz	Ph 2+3: 7A Ph 1+N: 21A	5550 W	4900 W
Europe	1	400V tri + N 50HZ	Ph 2+3: 6.4A +6,4A Ph 1+N: 10,5A	5200 W	4500 W
Europe	2	230V Mono 50Hz	25 A	5200 W	4500 W
UK	3	415V tri +N 50Hz	Ph 2+3: 7,5A Ph 1+N: 10,7A	5550 W	4900 W
UK	4	240V Mono 50Hz	25,7 A	5550 W	4900 W
Japon	5	200V tri +N 50Hz	Ph 2+3: 6,2 A Ph 1+N: 10 A	4060 W	3400 W
Japon	6	200V Mono 50Hz	22,5 A	4060 W	3400 W
Europe	7	230 tri 50Hz	Ph 2+3: 6,4 A Ph 1+N: 10,5 A	5200 W	4500 W
USA	8	240V Mono 60Hz	25,7 A	5500 W	4900 W
		208V Mono 60Hz	23,2 A	4340 W	3680 W
USA	9	240V tri 60Hz	Ph 2+3: 7,5 A Ph 1: 10,7 A	5550 W	4900 W
		208V tri 60Hz	Ph 2+3: 6,5 A Ph 1: 10,1 A	4340 W	3680 W
		220V tri 60Hz	13.5 A	5150 W	4120 W

► TANGO DUO ST

DIMENSIONS	
Width	60.3 cm 23.6"
Height	75.3 cm 29.5"
Depth	63 cm 24.8"
WEIGHT	130 kg 286.6"
CAPACITIES	
Coffee boiler	6.5 liters
Steam boiler	6.5 liters
Bac à marc	100 coffees
Numbers of cups / hour	+500



STANDARD				Power		
				Total	Boilers	
Country	Rep	Voltage (V)	Current			Steam
Philippines	0	415V tri + N 60Hz	Ph 2+3: 7 A Ph 1+N: 21 A	5550 W	4900 W	4760 W
Europe	1	400V tri + N 50HZ	Ph 2+3: 6.4A +6,4A Ph 1+N: 10,5A	5200 W	4500 W	4370 W
Europe	2	230V Mono 50Hz	25 A	5200 W	4500 W	4370 W
UK	3	415V tri +N 50Hz	Ph 2+3: 7,5A Ph 1+N: 10,7A	5550 W	4900 W	4760 W
UK	4	240V Mono 50Hz	25,7 A	5550 W	4900 W	4760 W
Japan	5	200V tri +N 50Hz	Ph 2+3: 6,2 A Ph 1+N: 10 A	4060 W	3400 W	3300 W
Japan	6	200V Mono 50Hz	22,5 A	4060 W	3400 W	3300 W
Europe	7	230 tri 50Hz	Ph 2+3: 6,4 A Ph 1+N: 10,5 A	5200 W	4500 W	4370 W
USA	8	240V Mono 60Hz	25.7 A	5500 W	4900 W	4760 W
		208V Mono 60Hz	23.2 A	4340 W	3680 W	3890 W
USA	9	240V tri 60Hz	Ph 2+3: 7,5 A Ph 1: 10,7 A	5550 W	4900 W	4760 W
		208V tri 60Hz	Ph 2+3: 6,5 A Ph 1: 10,1 A	4340 W	3680 W	3890 W

Managed by thermalink* only one heating element is ON steam or coffee (never at the same time)

► MODULE FRIGO ST

DIMENSIONS	
Width	26.5 cm 10.2"
Height	51.5 cm 20"
Depth	50 cm 19.6"
Weight	30 kg 66.1"
CAPACITIES	
Milk tank (liter)	9



The ST module is only fitted on the **left side** of the machine when it contains the pump milk unit



Left module ref: TG3621



3-MACHINE INSTALLATION

The machine must be installed on a horizontal plane.

A space of 5 cm (1.9") should be left all around the machine; and do not obstruct the air inlets on the top of the machine.

Provide an electricity supply corresponding to the power of the machine, a water supply and a "waste water" drain.

► Preparation of the machine

The machine is delivered in a cardboard packing case and is screwed to a wooden pallet.

◆ Unpacking the machine

- Cut the banding with shears.
- Open the packing case and remove the box containing the accessories.
- Unscrew the nuts holding the machine to the pallet by tilting the pallet slightly.
- Separate the packing case from the pallet
- Remove the machine from the pallet and install it on wooden blocks.
- Remove the transport screws and washers.

◆ Installing the machine

- Position the machine in its final location, and level it using rubber washers if necessary.

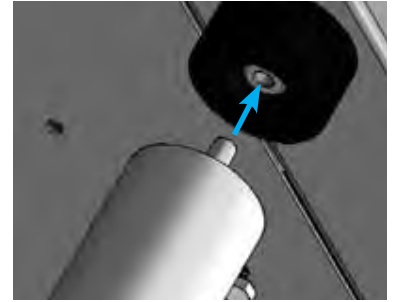
◆ Fitting high feet

Reference UNIC feet NSF: **NM-176**

Reference UNIC M8 x 16 bolts: **50402**

For fitting the aluminium feet, once the machine is installed in its location:

Screw the 50402 bolts to the aluminium feet, tip the machine onto the front two feet to screw in the aluminium feet at the base of the rubber feet at the back, and then do the same operation for bolting the feet to the front.

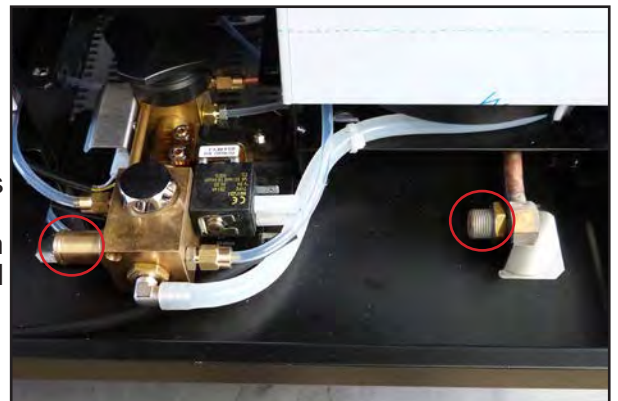


► Hydraulic connections

The machine is delivered with a complete connection kit including a stainless steel braided water hose 2 m length and a drain hose 2 m in length with a clamp located in the box of accessories.

◆ Duo

- Slide the lower trims toward the front
- Remove the basin grille
- Remove the basin after unscrewing the central screw.
- Screw the angled part (3/8") of the stainless steel braided flexible tube on the brass fitting located to the right of the machine, and the straight part (3/8") on the water softener outlet union. The water softener must be fed directly by the mains via a shut-off tap allowing a sufficient flow, Ø 8 min. Do not forget the seals. (See specificity for the Solo model)
- Put the softener in the flush position.
- Open the supply tap.
- Run a flush of the softener.
- Put the softener in the working position.
- Fit the drain hose on the fitting in the centre of the machine
- Check for leaks, and make sure that the drain tube allows water to flow to the main drain without any reverse slope.
- Refit the basin, not forgetting the seal which must be between the drain block and the basin, and not between the central screw and the basin.
- Refit the trims and the basin grille.

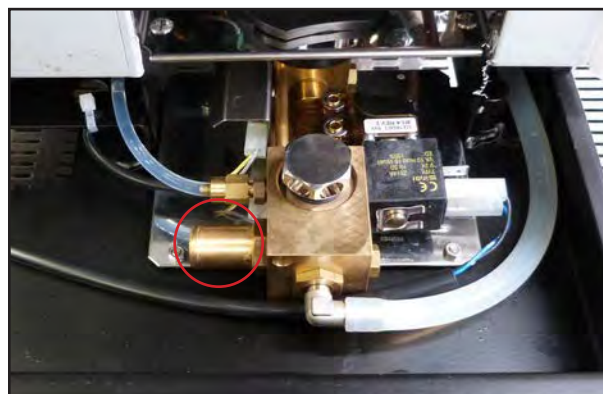
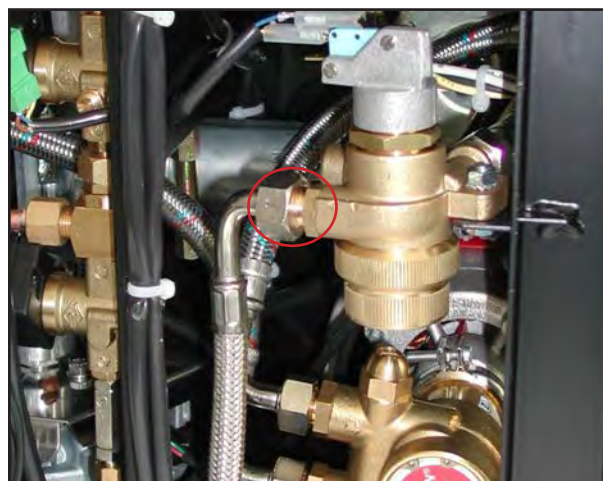


◆ Solo

- Slide the lower trims toward the front
- Remove the basin grille
- Remove the basin after unscrewing the central screw.
- Remove the right-hand side of the SOLO,
- Screw the angled part (3/8") of the stainless steel braided flexible pipe to the 3/8G fitting of the water safety filter block and the straight part (3/8") on the water softener outlet union.

The water softener must be fed directly by the mains via a shut-off tap allowing a sufficient flow, Ø 8cm (3.1") min.
Do not forget the seals. An opening in the chassis allows the hose to pass through

- Put the softener in the flush position.
- Open the supply tap.
- Run a flush of the softener.
- Put the softener in the working position.
- Fit the drain hose on the fitting located in the centre of the machine
- Check for leaks, and make sure that the drain tube allows a flow to the main drain without any reverse slope.
- Refit the bowl, not forgetting the seal which must be between drain block and the basin, and not between the central screw and the basin.
- Refit the trims and the basin grille.



► Electrical connections

Put the machine main switch in position 0, before any intervention.

The machine is delivered with a 5-core electric cable and a system of straps to allow for 3-phase or single-phase connection according to the installation.

The machine is pre-wired in accordance with the indications on the order and the country of destination. Before connection, check the conformity of the machine with the electrical circuit to which it is going to be connected.

To do this:

Compare the indications on the data plate, inside the drawer housing, with the characteristics of the circuit to which the machine is to be connected. Remove the left side of the machine and check that the connection of the straps on the terminal strip corresponds to the connection required (a diagram is glued to the inside of the side).

ADAPTATION OF THE TOROIDAL TRANSFORMER TO THE VOLTAGE OF THE CIRCUIT

The machine is equipped with a multi-voltage transformer in order to ensure the correct supply voltage to the electronics and 24-volt motors.

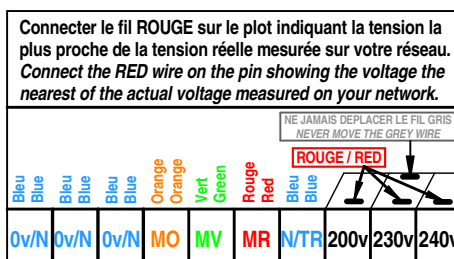
The machine is pre-set in the factory according to the country of destination (see page 6 and/or 7).

E.g.:

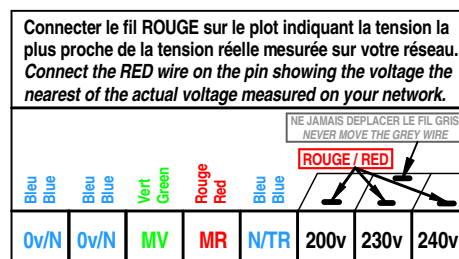
For Europe, the red wire is connected to the 230V terminal.

Once the connection has been performed correctly, it is nevertheless advisable to check that the voltage is $230V \pm 5\%$. The low voltage should be about of 22V. These voltages should be checked with the machine working and the main switch closed.

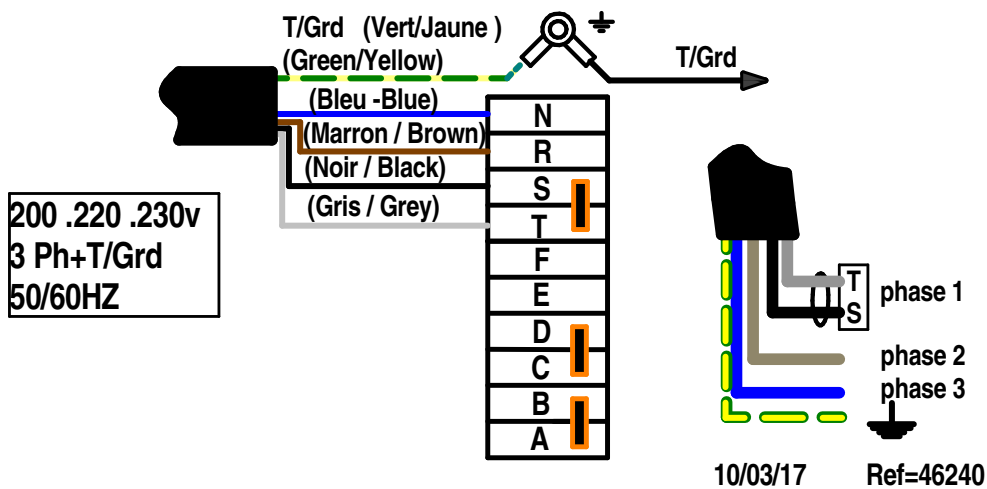
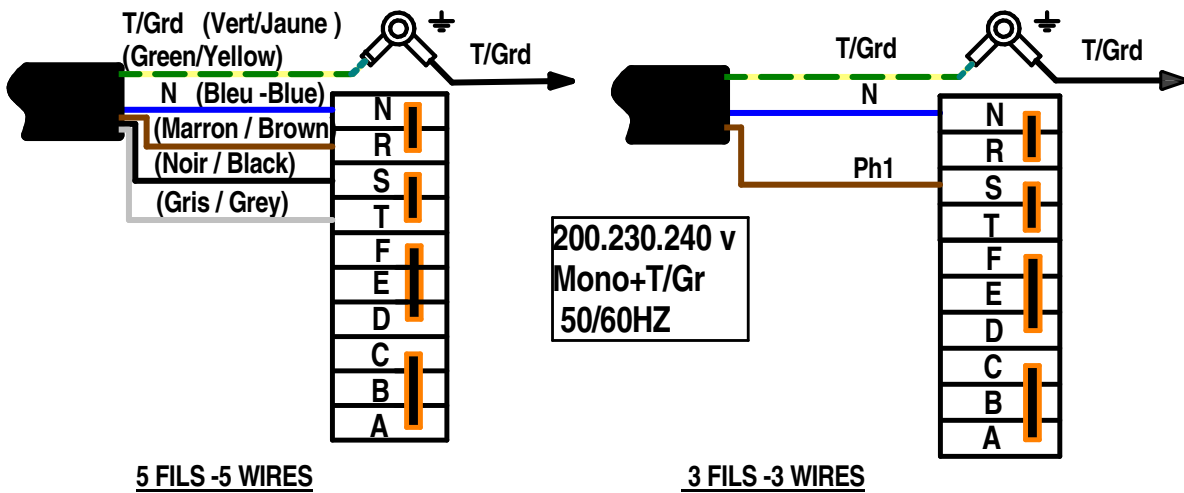
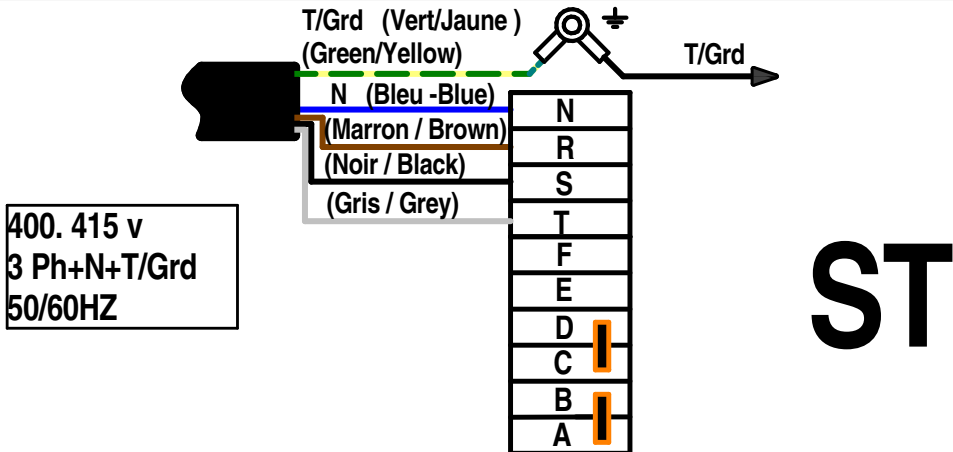
Réf: 46029



Réf: 46031



BRANCHEMENT BORNIER / TERMINAL CONNECTING



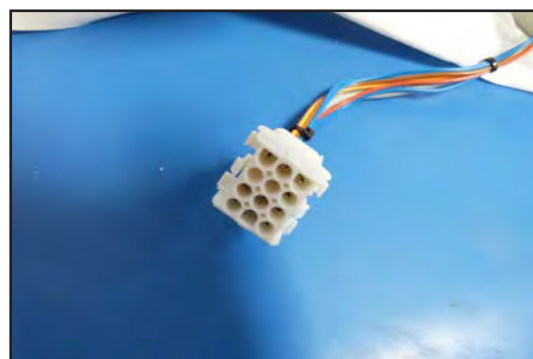
IN ALL CASES THE GREEN/YELLOW WIRE MUST BE CONNECTED TO THE EARTH OF THE INSTALLATION

► Connecting the ST refrigerator module to the machine

◆ Electrical part:

The refrigerator is composed of a supply cable for the mains and computer connection to the machine.

- Place the refrigerator on the left of the machine
- The cable connector has a fool proofing device, if this makes connection difficult, the connector is the wrong way round.
- The connector on the refrigerator is located under the refrigerator at the left back.



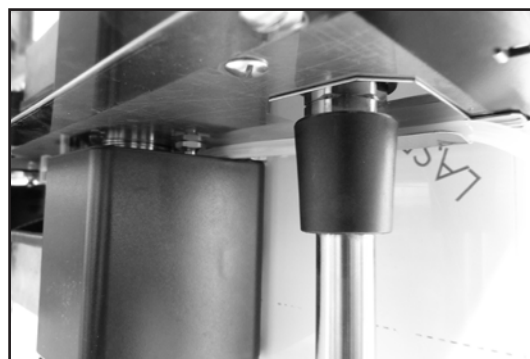
◆ Hydraulic part - milk pump

With a pump milk, there are 2 quick couplers differentiated with 2 different colors (grey, white). Refer to the decal on the chassis for the positioning.



◆ LC hydraulic part

With a cappuccino LC the refrigerator is delivered with the pipe already fitted in the refrigerator, it remains simply to feed it through the plate prepared for the purpose and fix it to the cappuccino outlet end.



► Installing the bins

To avoid damage during transport, machines are delivered with the bins removed

INSTALLING THE BINS:

- The bins are fixed from behind. Respect the direction of fitting.
- Position the closing trap on the bins; pay attention to the direction of the opening of the trap.
- Access to the trap is by removing the side.

- Capacity: 1.7 kg (4,5 liters) for the large bin.
- Capacity: 1.2 kg (3 liters) for the small bin.



CAUTION:

Air must be able to circulate freely around the machine. The ventilation openings located at the rear of the machine and on the top must not be obstructed.

The machine must not operate without its legs.

4-COMMISSIONING

► Switching on the machine and Turning on the heating

Once all the connections are made and checked (water supply, electricity supply and drain).

Set the main switch in position 1.

As soon as the electricity is switched on, the boilers fill automatically.

Remember to open the water tap supplying the machine.

The heating of all the parts starts automatically if the filling is correct.*

When the machine reaches its operating temperature, it performs a self-check.

These initialization phases are very important for the proper functioning of the machine. They are only possible if the coffee grounds drawer is in place, and they must not be interrupted, for instance by removing the drawer. (The steam pressure and the temperature of the groups are visible on the screen during heating).

The machine is operational once heating has been switched on and the self-check performed.

It is advisable to leave the machine heating on permanently.



► Module ST

The temperature display indicates the ambient temperature of the refrigerator.

Specificities:

Compressor electrical regulation

Contact temperature of the liquid

Liquid level probe (triggered at <1.2 liter)

9 liter container capacity

Dimensions:

Outer (width * Length * height) 10.5 "x 19.6 x 20.3

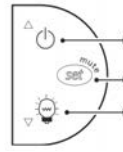
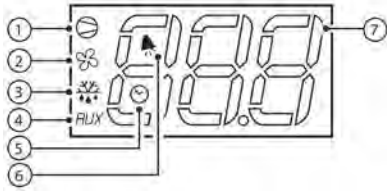
Inner (width * Length * height) 6.6 "x 10.9 x 10.8

UNIC part number for the display: 45039



Explicative note of display 45039 (TG9191)

1. Compressor indicator
2. Fan
3. Defrosting
4. Auxiliary output (AUX)
5. Clock (RTC)
6. Alarm
7. Numbers



1. Press 3s, to switch ON/OFF
2. Press <1s : cancel sound alarm
Press =1s : temperature setting
Press 3s : access programming parameters
3. Press 1s : Turn ON/OFF heats cups

Normal use
warming cups ON



Temperature

Cup warmer indication ON/OFF

Temperature setting
from 38.3°F to 46.4°F



- Press during 1s on SET, after a few moments, the programmed value flashes;
- Increase or decrease the value with UP or DOWN;
- Press on SET to confirm the new value



Main alarm A5 = Indication empty
container and / or missing container

Parameter navigation

The operating parameters, modifiable through the front keypad, the access is protected by a password (default = 22) which prevents accidental changes by unauthorized persons.

Access to parameters:

- press the SET key for 3s (in case of alarm, cancel the buzzer). On the screen appears the code of the parameter 'PS' (password),
- confirm by pressing the SET key, to enter the password, scroll with UP and DOWN (default = 22), then confirm with SET,
- use the UP and DOWN keys to scroll through the parameters.
- press SET to display the value associated with the parameter;
- increase or decrease the value with the UP and DOWN keys respectively;
- press SET to temporarily save the new value and return to the parameter display;
- repeat the procedure for the other parameters that you wish to modify;
- press the SET key for 3s to permanently save the parameters and exit the modification procedure.

Main parameters:

/I5 = selection °C/°F



/I1 = offset temp. probe



H4 = Disabling the buzzer



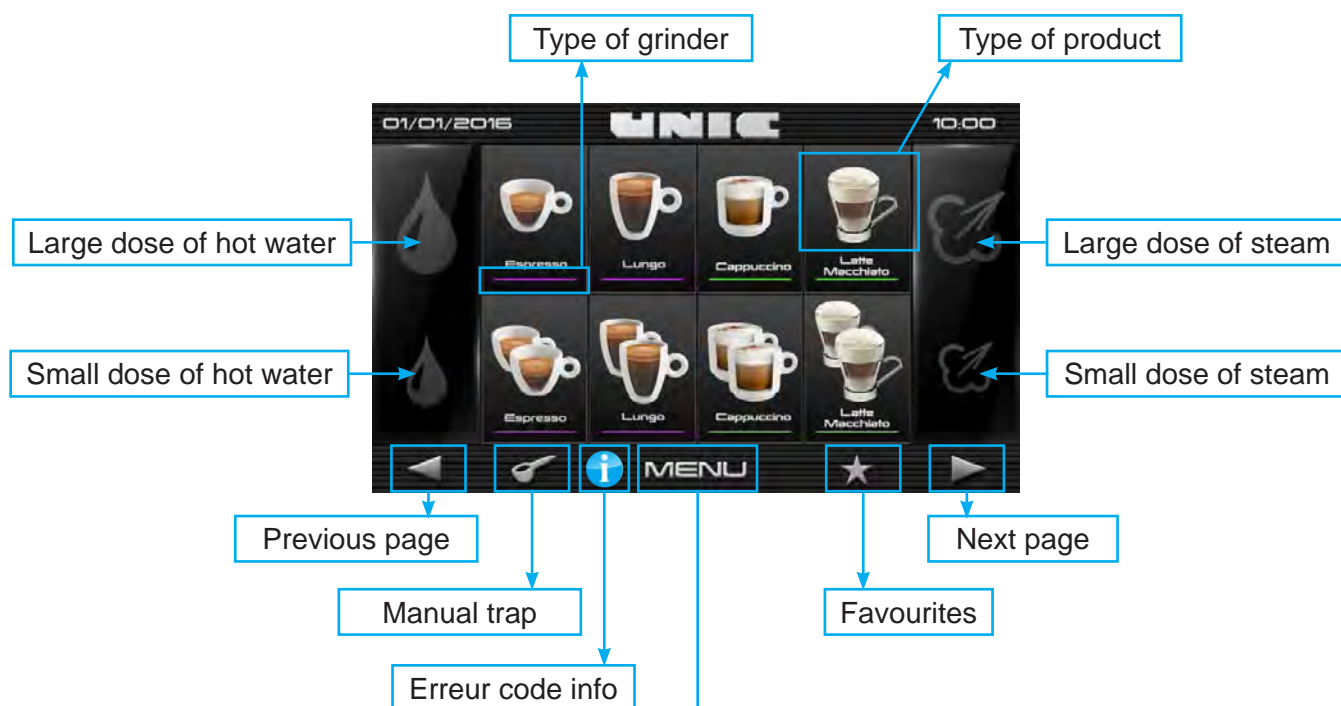
A4 = Disabling
presence sensor



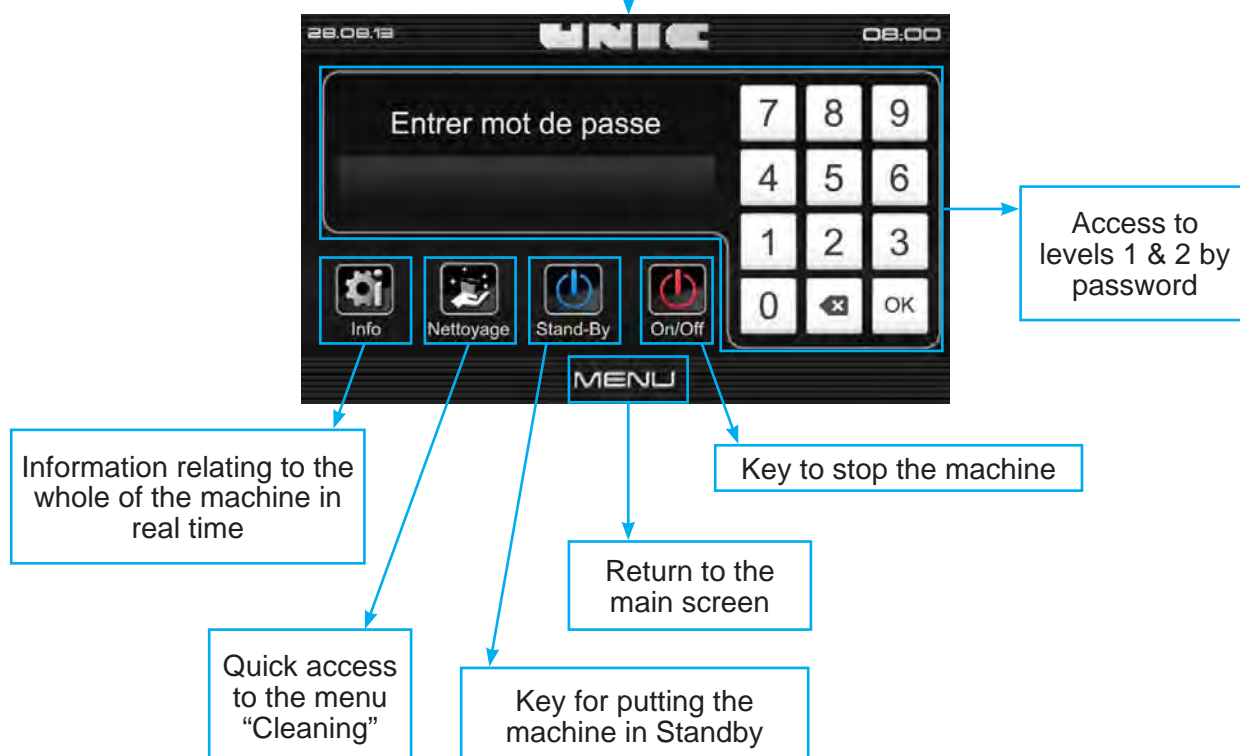
5-INTERFACE

The level 0 (User) includes the main screen for making the products, the hot water, the steam and access to the quick access screen, which allows the user to have direct controls such as to Stop the machine or put it in Standby.

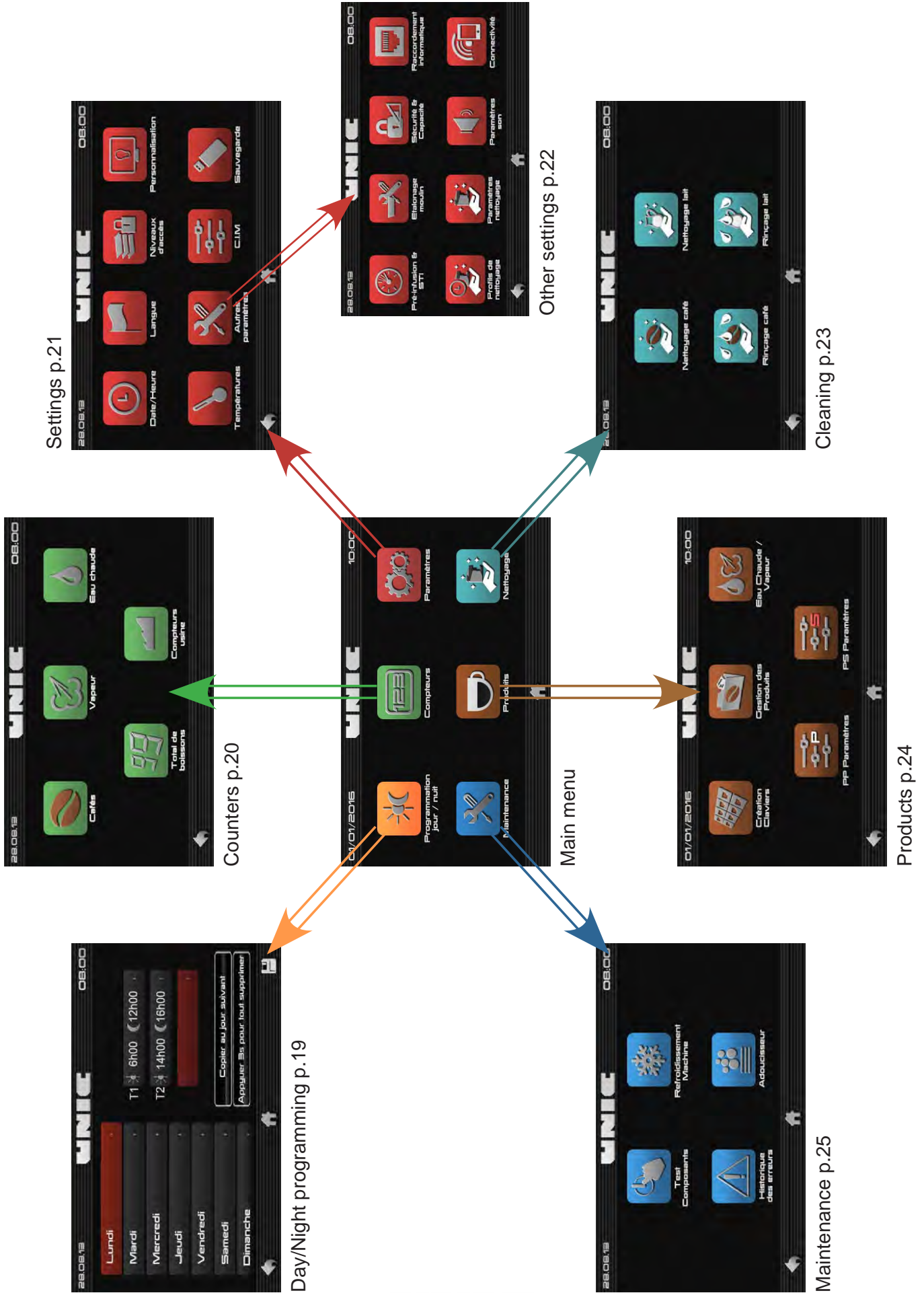
► Main screen
















► Quick access screen / Code



Once the security code has been confirmed the levels 1 (Customer) or 2 (technician) are accessible (according to the Code).



► Miscellaneous icons

	Scrolls the drinks keyboards.
	Icon to access the «Quick access / code» screen
	Return to the main screen
	Return to the previous page
	Key to activate the opening of the cover of the manual trap for 10 seconds; the time required to introduce 1 or 2 doses of ground coffee and close the trap again.
	Access to favourite products on the main screen
	Icon for copying a file and/or data
	Icon for indicating settings (e.g.: settings of a product)
	Icon for saving data and/or parameters
	Icon for confirming data and/or parameters
	Icon for cancelling data and/or parameters
	Icon for indicating the remaining time of the compulsory cleaning of the machine (before blocking).
	Icon for accessing error codes / alarms activated.

► Day/night programming

Allows you to schedule the days and times of automatic switching to night mode (machine in standby, reduced heating temperatures), and day mode; may or may not be followed by an automatic cleaning cycle.

To add a time slot:

- Press «Add a time slot»
- Schedule the desired times
- Remember to confirm
- you can then either copy this same time slot for the next day, or add a new one.



If you want to re-schedule your time slots, press the button at the bottom right of the screen for 3s.

Remember to save your settings.

Note: When Standby is enabled the regulation of the group and the coffee boiler goes to 70°C and 0.1 bar for the steam boiler

All screens are off

All safety functions remain activated

Standby output: resumption of the normal regulation is done 10 minutes before the exit from standby.

► Counters

This menu allows you to view the statistics for all the products produced on the machine.

Note: At level 2, it is possible to perform a general reset of all counters.



► Settings

This menu allows you to adjust the settings of the machine such as the date and time, the desired language, the boiler temperatures and the LED color and brightness.

Note: Some settings are only accessible or changeable at level 2 (technician).



Language p.26



Level 2 (technician) required p:27



Customizing p.26



Level 2 (technician) required p:28



Level 2 (technician) required p:27

◆ Other settings

Grinder calibration p.29



Pre-infusion & STI p.28



Computer connection p.31



Cleaning setup p.30



Connectivity p.31



Cleaning settings p.29



► Cleaning

Coffee cleaning p.36



Milk cleaning p.37



Flushing starts automatically once you have pressed the button

Flushing starts automatically once you have pressed the button

► Products

Keyboard creation p.32



Product management p.33



Hot water / steam p.33



'PP' settings p.34



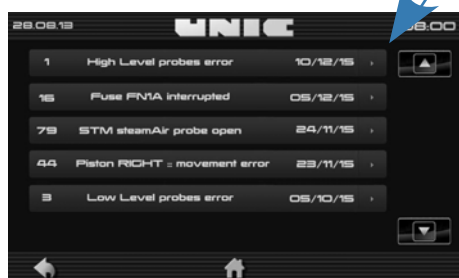
'PS' settings p.34

► Maintenance

Component test p.45



Cooling machine p.46



History of errors p.46



Softener p.46

6-SETTINGS

► Language

◆ Language selection

To change the language, tap the icon for the desired language (A confirmation is not required, the change is effective immediately).

► Personalization

The screen saver and LED background illumination and the type of keyboard can be changed.

◆ Keyboard selection

In this sub-menu the type of keyboard can be changed. There are 2 modes: AZERTY or QWERTY (A confirmation is not required, the change is effective immediately).

◆ Wallpaper

Tap the machine's screen to see a selection of several standard desktops. Tap to select the desired image (the images will step through). The slider allows the time delay to standby screen to be set (cursor left = standby disabled).

Personal wallpapers can be imported: Insert a USB drive with the images, press the "import" tab, select the image(s) and confirm.

Adding images to the USB drive from a computer: Open the USB drive > open the folder named "UNIC" > open the "F_ECRAN" folder > copy the image into this folder > follow the instructions on the "Desktop wallpaper" menu

If there is no "F_ECRAN" folder on the USB drive, create a new folder in the "UNIC" directory, following the syntax exactly.

If the syntax is not exact, or if the "F_ECRAN" folder is a subfolder to any folder other than "UNIC", the machine will not be able to find your logo.

Note: accepted formats are .png or .jpg, resolution 800x480. DUO, 2 different wallpapers are possible.

◆ LED setting

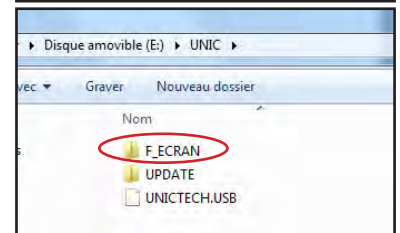
Tap one of the two LED bars. Three settings can be adjusted: Color: RGB mode.

Speed: color change (0 for no change).

LED intensity: 0 for LED off.



Général		Détails
Propriété	Valeur	
Images		
ID de l'image		
Dimensions	800 x 480	
Largeur	800 pixels	
Hauteur	480 pixels	
Résolution horizontale	72 ppp	
Résolution verticale	72 ppp	



► Access level

Most menus are locked by default. Various settings and programs are inaccessible. Access to settings is enabled by entering a code according to two access levels.

To change a code, tap the settings icon, enter the new password then confirm to save the change.



► CIM

Note: level 2 required to change.

Permits access and/or changes to the machine's characteristics, such as:

Type of machine		SOLO ST	DUO ST
Grinders	Purple	X	X
	Orange		X
	Green	X	X
Pre-infusion		X	X
Left milk system	None	X	X
	LC	X	X
	Pompe	X	X
Right milk system	None		X
	LC		X
	Pump		
Self mode		X	X
Water tank		X	X
Milk level sensor		X	X
Milk temperature sensor		X	X
Hot water		X	X
Steam		X	X
Decaf		X	X
Hydraulic system	Basic	X	X
	with EViNF	X	X



► Backup

This submenu allows importing (and/or exporting) keyboards, settings, or databases, for configurations already created on a similar machine.



► Pre-infusion and STI

◆ STI

This function is common to all “coffee” cycles. It permits adjusting when in the piston cycle the infusion starts, it is particularly effective for the “1 cup” cycles. The “1 cup” quality is therefore improved and more regular, therefore programming of all the “coffee” key settings can be done by the PP mode.

Settings for 1 or 2 cups are done separately.

STI = 00 is the factory setting (ideal setting in 95% of cases)
(00 setting includes a small amount of pre-infusion)

STI = +01 to +100: infusion starts later (less pre-infusion)

STI = -01 to -100: infusion starts earlier (more pre-infusion)

STI = > 60 cancels the effect of the STI.



◆ Tamping level

There are four tamping levels.

A number gives the intensity of the tamping force; the higher the number, the more force is applied.

Level	Setting range	Default value
1	0,6 to 1,4	0,8
2	1,5 to 2,5	2,0
3	2,6 to 4,0	3,5
4	4,1 to 6,5	6,0

When exiting this setting, the machine automatically carries out self-check phases 1 and 2 to recalculate the piston parameters generated by the new tamping values.

In general:

A small dose of ground coffee infused by a small quantity of water needs heavy tamping: Level 4

A large dose of ground coffee infused by a larger quantity of water needs light tamping: Level 1.

► Grinder calibration

The type of coffee used and the grinder collar setting will affect the ground coffee dose. This procedure calibrates the actual ground coffee weight dispensed to match the value in the programmed settings. Select the desired grinder, prepare the weighing kit and the scale, and then follow the procedure.

This procedure is done in 2 steps:

1 – Grinder Tuning (Grinder collar adjustment)

A test cycle displays the time of the extraction in seconds.

Test cycle: 2 cups of 50 cl. using about 14 grams of ground coffee.

The test cycle infusion time is displayed at the end of the cycle.

2 – Grinder dose Calibration

2 grind cycles, one short and one longer, are weighed and recorded. The resulting time needed per gram is automatically calculated and applied to the programming to produce an accurate weight for each dose.

A master reset returns to the initial calibration preset in the machine's memory, in the case of replacing grinder burrs, if no scale is available, or incorrect operation, etc.



► Cleaning settings

This submenu permits adjusting the settings for all cleaning and/or rinsing cycles.



Machine factory settings (Do not change):

		Factory setting	Large cup setting
Auto clean delay	min	1	2
Start EVNR time	sec	3	4
Purge time	sec	0.2	0.1
Hot milk EVRP delay	sec	4.1	4.1
Auto clean water time	sec	7	7
EVVS delay	sec	2	0.1
EVALC/EVALF delay	sec	3	2
EVALC/EVALF final delay	sec	0.5	0.5
EVVS delay first after rinse	sec	5	6
Rinsing spout delay	min	60	60

► Cleaning setup

Profile 1, cleaning coffee 26h / cleaning milk 8h / cleaning powder



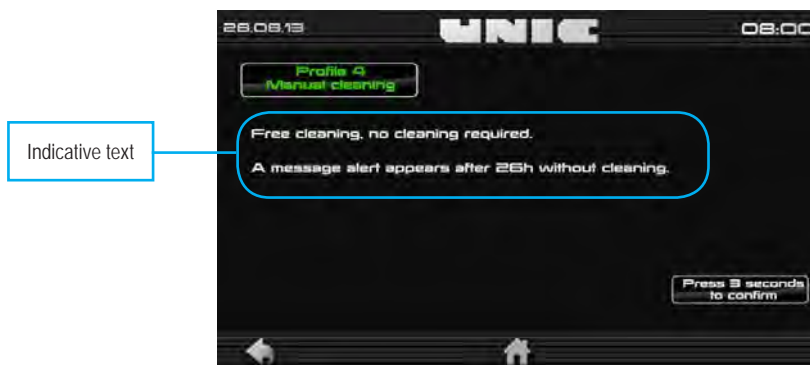
Profile 2, cleaning per hour, with 3 adjustable time ranges.



Profile 3, cleaning based by number of cycles,
The coffee cleaning is mandatory every 26h.



Profile 4, free cleaning, no cleaning required. A message alert appears after 26h without cleaning.



► Computer connection

Protocol type: EXE / MDB

Permits selection of the type of computer connection:

- Credit / Debit
- Debit / Credit
- RS 232



Only in french: You can check the note **TG9006** «TANGO3 système de paiement de caisse» for a complete configuration.

► Connectivity

1st step : to go in parameter > CIM > serial number, configure the serial number of the machine (S/N)

The S/N allows the identification of the machine on the UNIC interface IOT it is unique.

2nd step : to go in other parameter > Connectivity

Type of connection:

- GSM (no settings required)
- Wifi :

Security : choose the security related to your wifi network WEP / WPA / WPA2

SSID : wifi connection name (access point name, router, box)

Password : the word the point wifi acces

Very important, fully respect the syntax: tiny uppercase characters.

Diagnostic :

1. Turn off and restart the machine.
2. To wait some minutes, the LED turn green = internet connection is OK.

Green Led = ok connection with the Server

Orange Led = no connection with the server

Red Led = Problem communication with the machine



► Keyboard Menu creation

A maximum of 6 pages can be created:

SOLO: Up to 8 products per page, for 48 products maximum

DUO: Up to 8 products per page, for 96 products maximum

To delete an entire keyboard; press and hold the keyboard thumbnail until it disappears.

Example with a Solo:

- Select the number of products desired (from 2 to 8)
- Slide the desired beverages into the boxes.
- To change, slide the new product into the desired box.
- Scroll with the directional arrows to navigate through all the products.

(The name of the product is displayed in the color of the grinder)



► Product management

This sub-menu permits managing all existing drinks in the machine. Copy a drink and/or access its setting to change the recipe, or just delete the product.

◆ Adding a drink

In this sub-menu a new recipe can be created. Follow the procedure below.

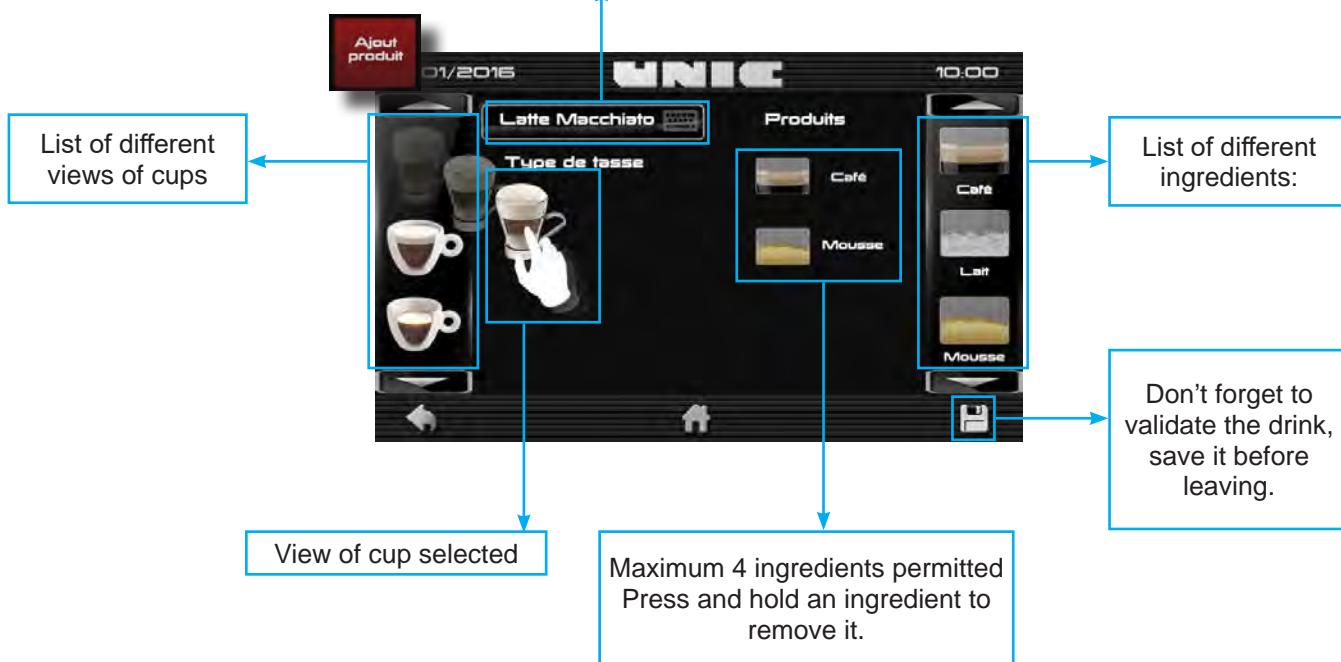


Icon to copy the drink

Icon to access settings

Icon to delete the drink

Name the drink, tap the keyboard then validate the name by tapping **ENTER** (to validate a new drink the name must be entered).



► Hot water & steam

Large quantities of steam	0 to 100	sec
Small quantities of steam	0 to 100	sec
Temperature <i>steamair</i>	50 to 90	°C
Large volume of hot water	0 to 1000	cc
Small volume of hot water	0 to 1000	cc



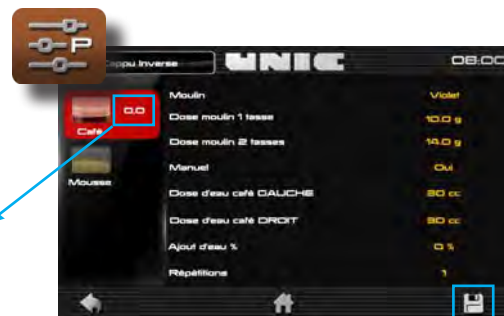
► 'PP' Programmed parameters

(Single and double drinks linked)

Permits programming base settings common to each product family (for example: espresso, cappuccino) created during keyboard configuration

Coffee		Milk foam		Milk	
Grinder selection		Left foam time	s	Left milk time	s
1 cup grinder dose	gr	Right foam time	s	Right milk time	s
2 cup grinder dose	gr				
Manual					
Left coffee water dose	cc				
Right coffee water dose	cc				
Add water	%				
Repetitions					

A pause time can be set between execution of the ingredients (expressed in seconds).



Don't forget to validate the product, to save it before leaving.

► 'PS' Specific program

(Each drink programmed independently)

Displays all the settings for each product present on the machine's keyboard(s).

Changing settings only changes the product selected on the keyboard without altering the common settings. List of settings that can be changed:

- Grinder selection
- Grinder doses 1(2) cup(s)
- Manual
- Water dose right (left) coffee
- Add water
- Repetitions
- Coffee tamping level
- Coder offset
- STI



7-CLEANING & MAINTENANCE

► Cleaning external outlets / housing

It is advisable to disassemble the coffee and milk outlets daily for thorough cleaning.

◆ Coffee outlet

1. Slide the coffee spout(s) down
2. Pull the spout towards you to remove
3. Clean the spout(s) under a tap or directly in a dishwasher
4. Replace the spout(s) on the machine

◆ Cappuccino outlet

1. Slide the coffee spout(s) down
2. Pull the spout towards you to remove
3. Remove the cappuccino foamer head by turning the assembly to the right and pulling down
4. Separately disassemble each part for individual cleaning, including the silicone suction tube.
5. Reassemble.

◆ Steam wand

After each use, wipe the steam tube with a damp cloth and briefly tap the steam button to purge the small quantity of milk remaining inside the tube. Disassemble the steam outlet nozzle for easier cleaning.

◆ Drip tray



Remove the drip tray by sliding the frame forward and lifting the grate out. Clean the grate using a sponge.

◆ Housing

Use a soft cloth and alcohol for the stainless steel parts, and non-abrasive detergent for the painted parts. The grounds drawer is entirely in stainless steel, it can be easily cleaned with water. Take care not to scratch the painted parts.



► Cleaning Cycles

In the 'Cleaning' menu, the rinsing icons   automatically start a rinse cycle (~30 sec) for the milk or coffee systems.

Daily cleaning is required; the machine will stop after 26 hours if a tablet cleaning has not been completed. As soon as the cleaning is finished, the timer restarts for another 26 hours.

Note: for more information about cleaning products, refer to the manufacturer's safety data sheet.

◆ Coffee cleaning

Tap the "Coffee cleaning" icon to access the procedure and follow it step-by-step.

DON'T FORGET TO INSERT TABLET(S)
SOLO 1 tablet, DUO 2 tablets.
 (UNIC reference, box of tablets: 92060)



1. **Nettoyage pastille**
 Refirer le bac à marc
 Dévisser le bouchon
 Insérer la pastille
 Revisser le bouchon
 Replacer le bac à marc

2. **Nettoyage pastille**
 Refirer le bac à marc
 Dévisser le bouchon
 Insérer la pastille
 Revisser le bouchon
 Replacer le bac à marc

3. **Nettoyage pastille**
 Refirer le bac à marc
 Dévisser le bouchon
 Insérer la pastille
 Revisser le bouchon
 Replacer le bac à marc

4. **Nettoyage pastille**
 Refirer le bac à marc
 Dévisser le bouchon
 Insérer la pastille
 Revisser le bouchon
 Replacer le bac à marc

5. **Nettoyage pastille**
 Refirer le bac à marc
 Dévisser le bouchon
 Insérer la pastille
 Revisser le bouchon
 Replacer le bac à marc

6. **Nettoyage en cours ...**
 Attendre ...

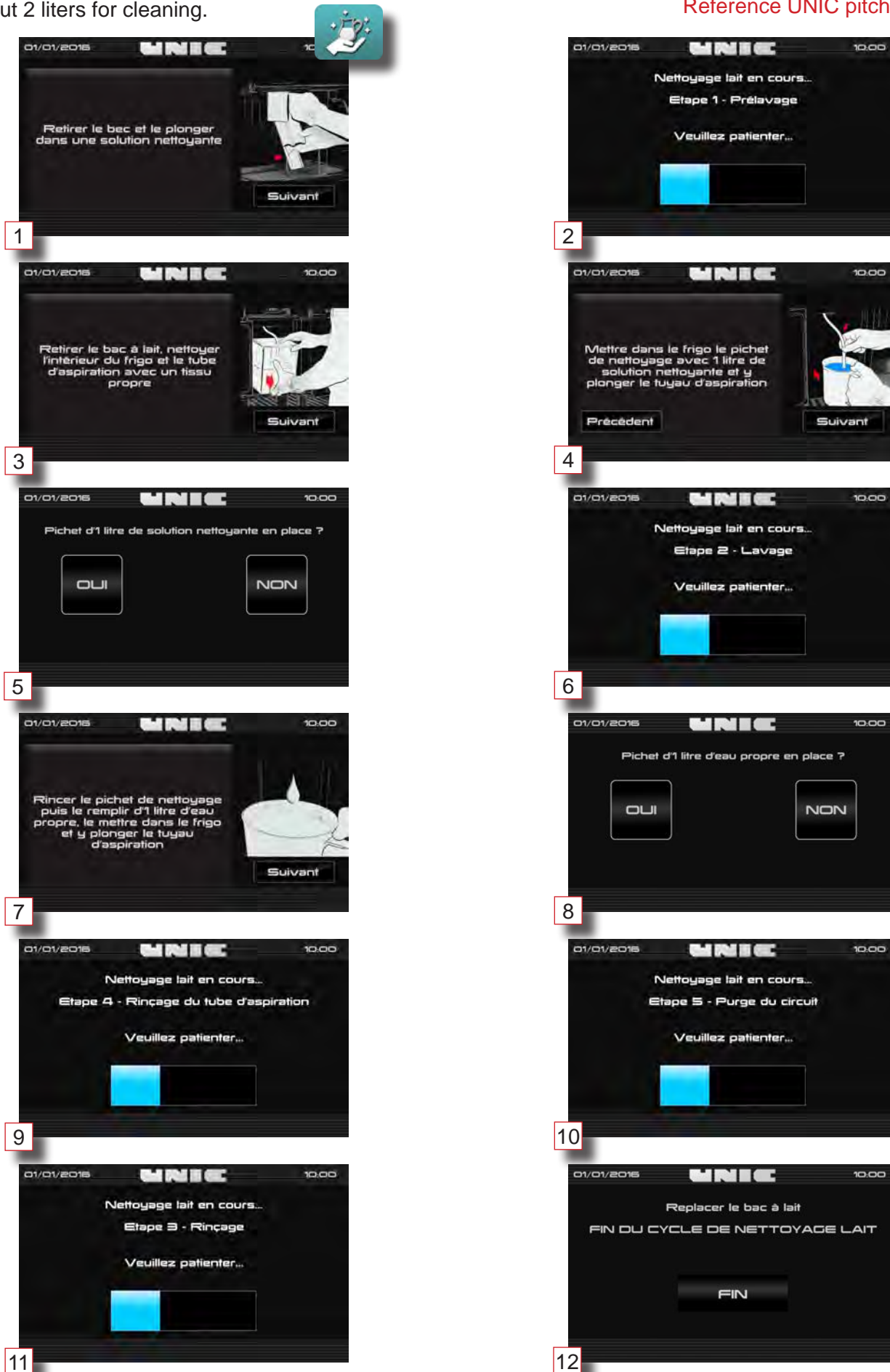
7. **Nettoyage terminé**
 Appuyer sur FIN pour sortir.

Cleaning details:
 2 minute > soak
 6 minute > wash
 3 minute > rinse

◆ Milk cleaning (with pump)

This includes internal cleaning of the circuit and external components related to the circuit, such as the milk tray and spout. Use a pitcher of about 2 liters for cleaning.

Reference UNIC Umex: 92027
Reference UNIC pitcher: 54212



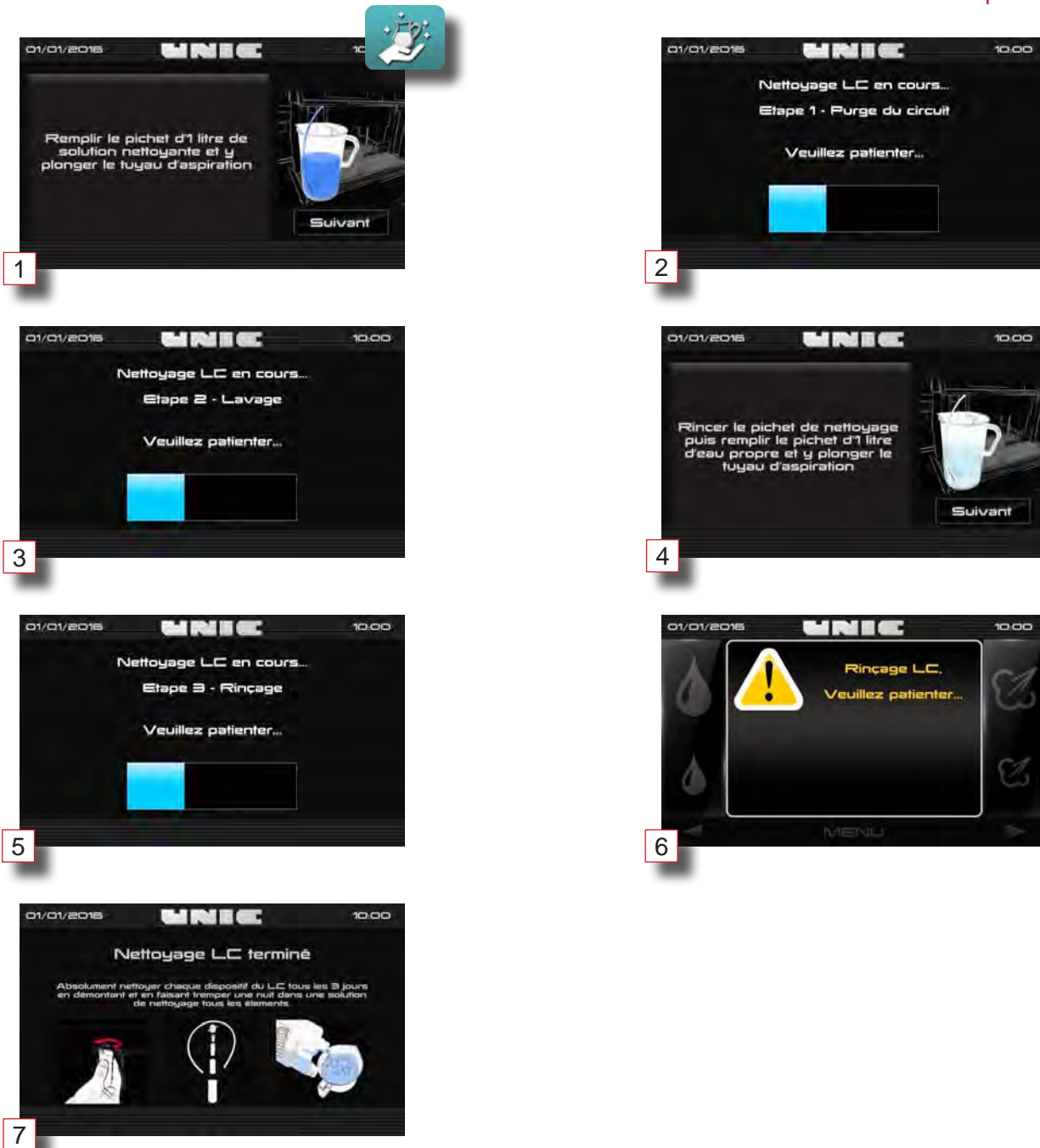
Cleaning kit for milk and cappuccino circuits.



◆ Cappuccino cleaning (with LC)

This includes internal cleaning of the circuit and external components related to the circuit, such as the milk tray and cappuccino outlet. Use a pitcher of about 2 liters for cleaning.

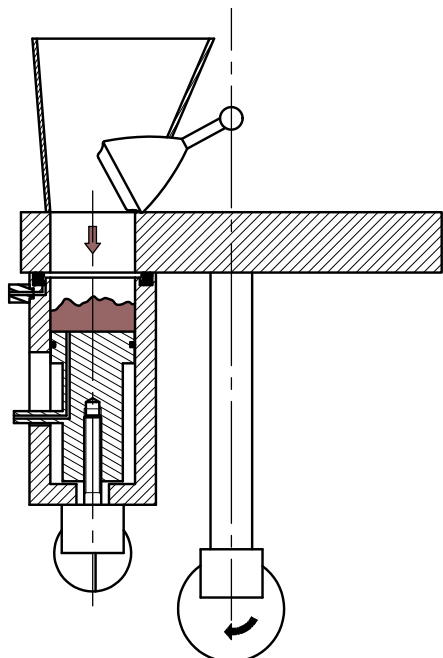
Reference UNIC Urnex: 92027
Reference UNIC pitcher: 54212



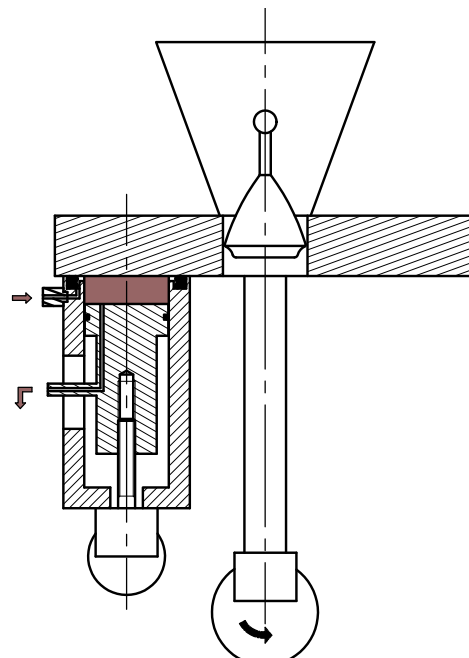
8-MAINTENANCE & TROUBLESHOOTING

► Description of cycles

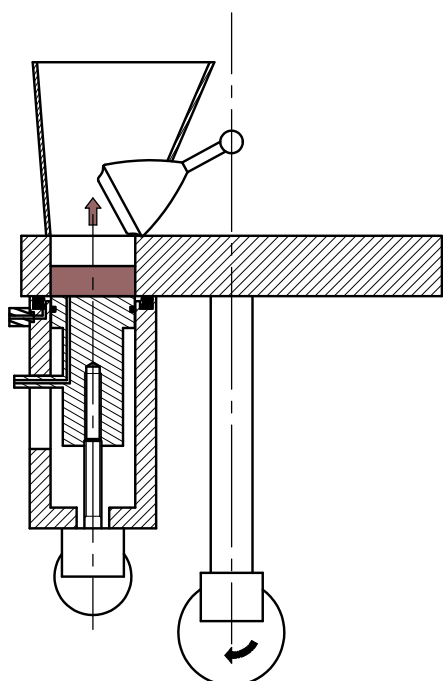
◆ 1 group Cycles



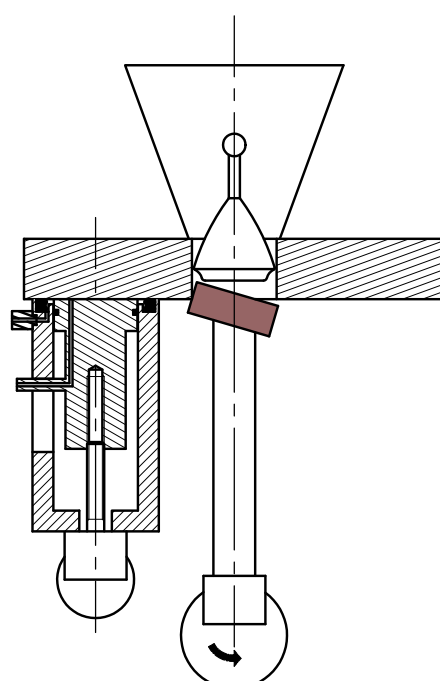
CHARGEMENT CAFE
COFFEE FEEDING



INFUSION
INFUSION

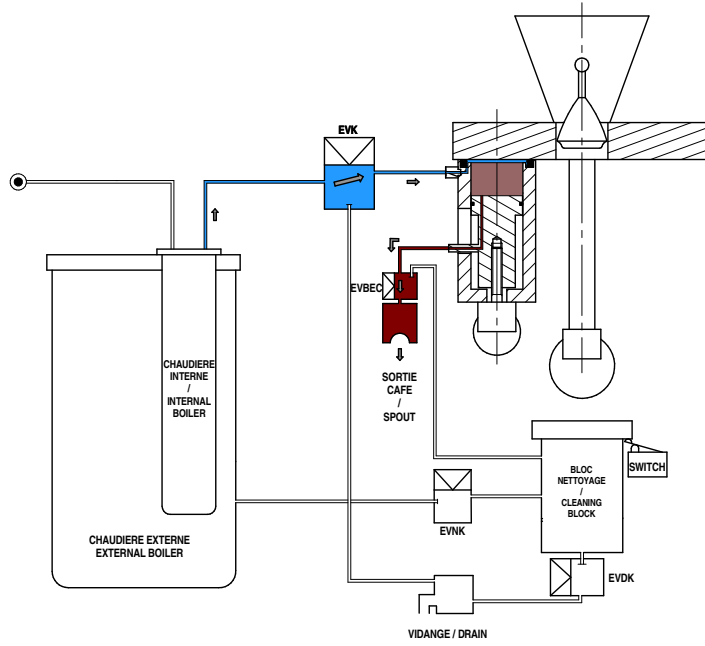


EJECTION DU MARC
EJECTION OF GROUT

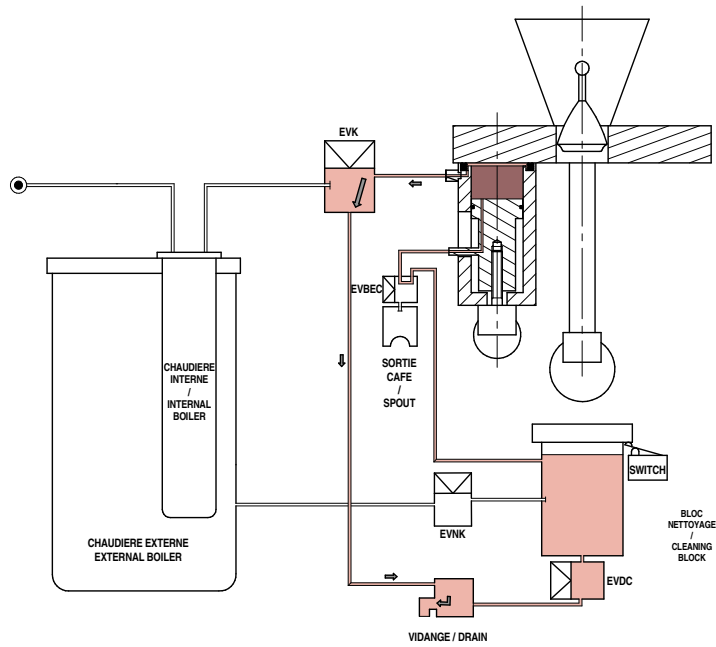


ETAT REPOS
STAND BY

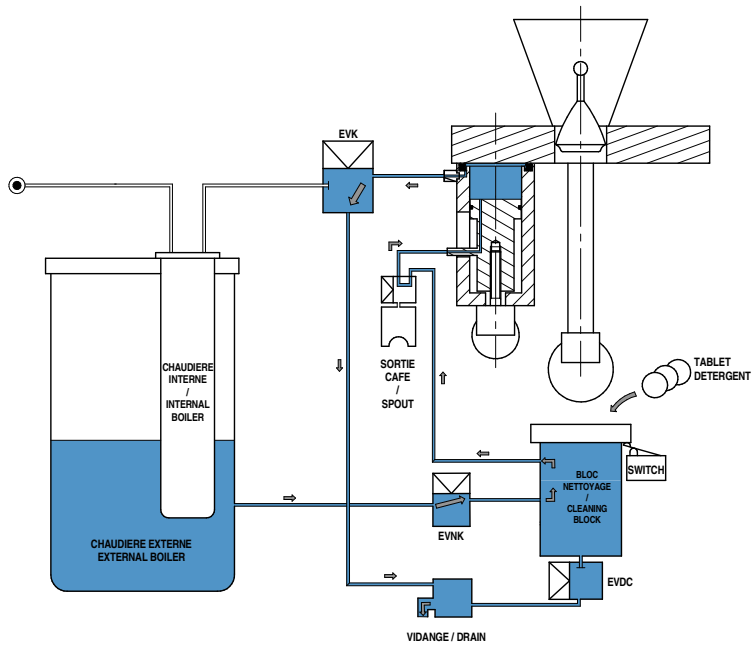
Infusion cycle.



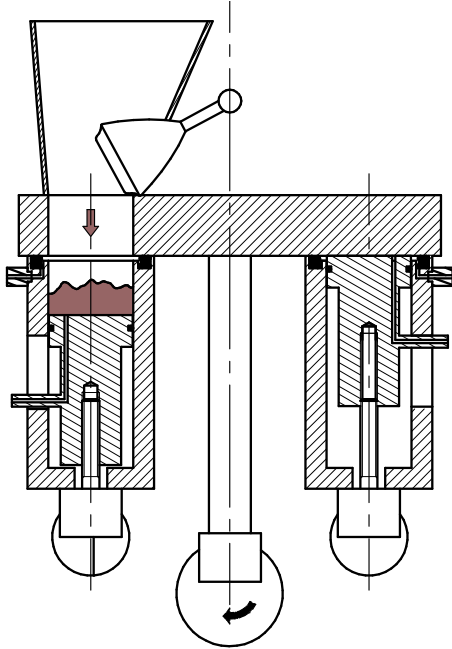
Decompression cycle.



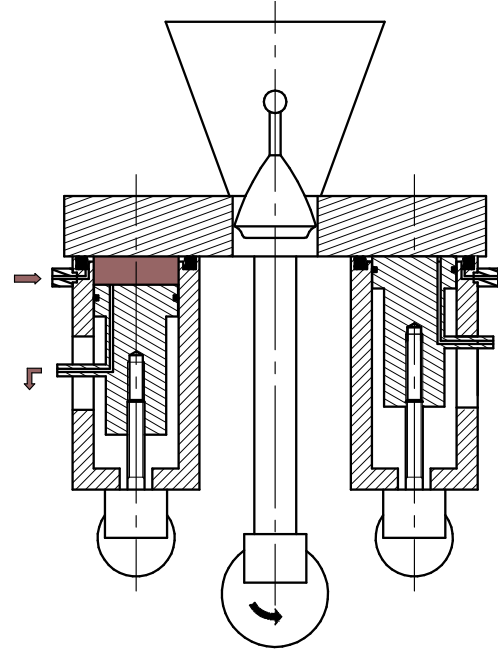
Cleaning cycle.



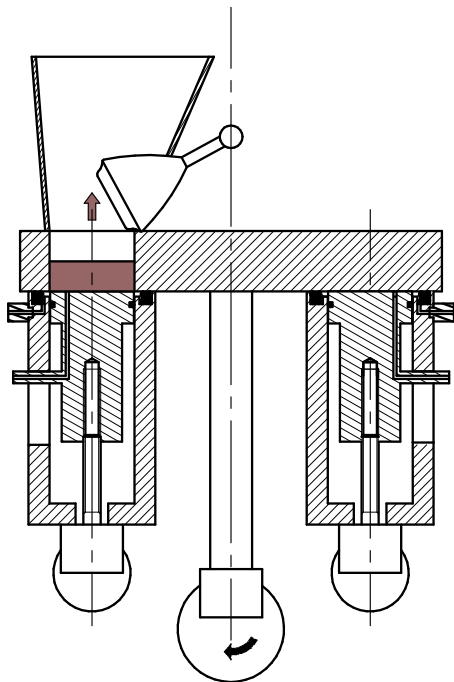
◆ 2 groups Cycles



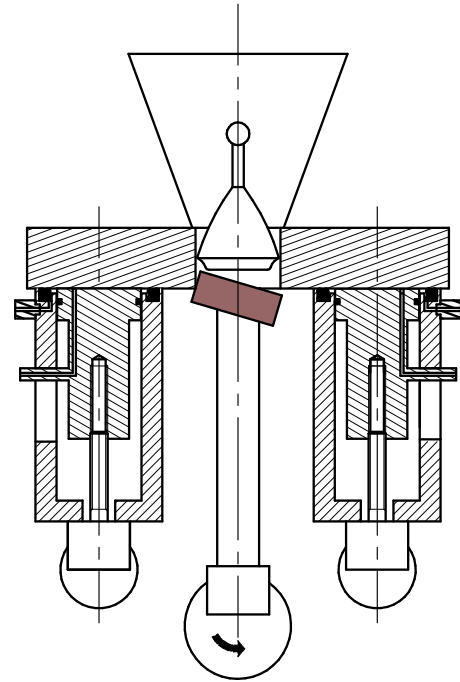
CHARGEMENT CAFE
COFFEE FEEDING



INFUSION
INFUSION

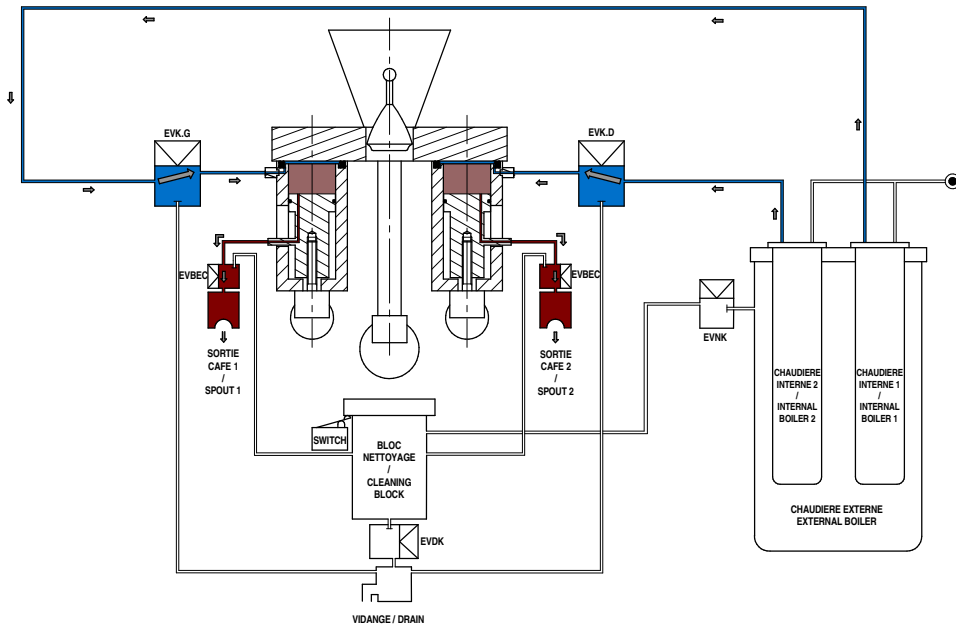


EJECTION DU MARC
EJECTION OF GROUT

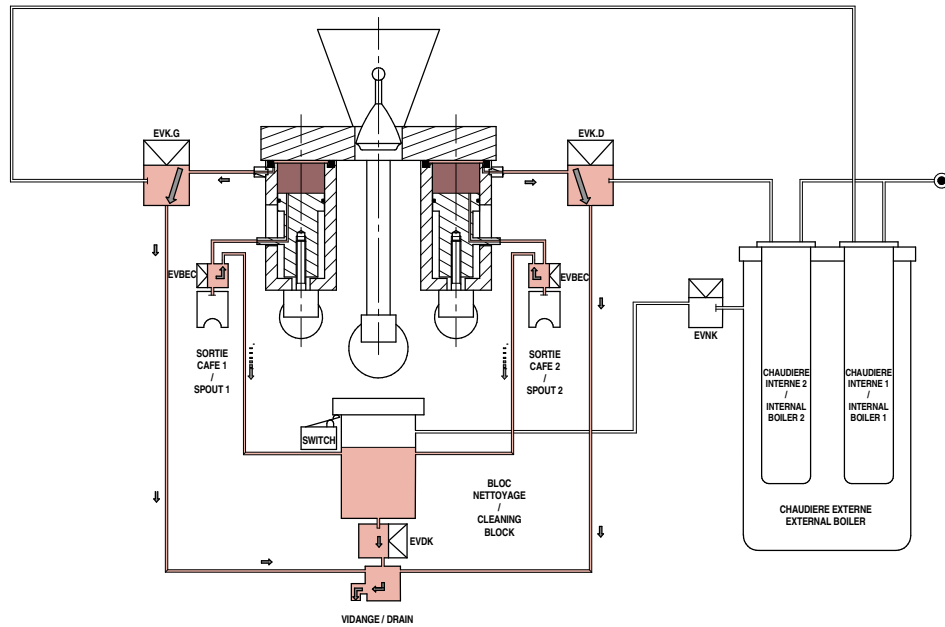


ETAT REPOS
STAND BY

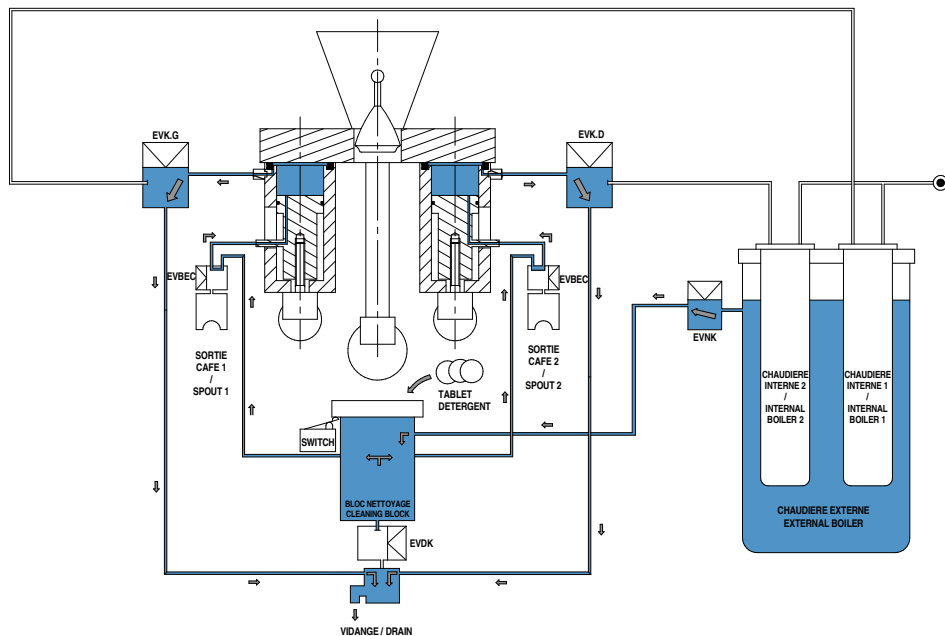
Infusion cycle.



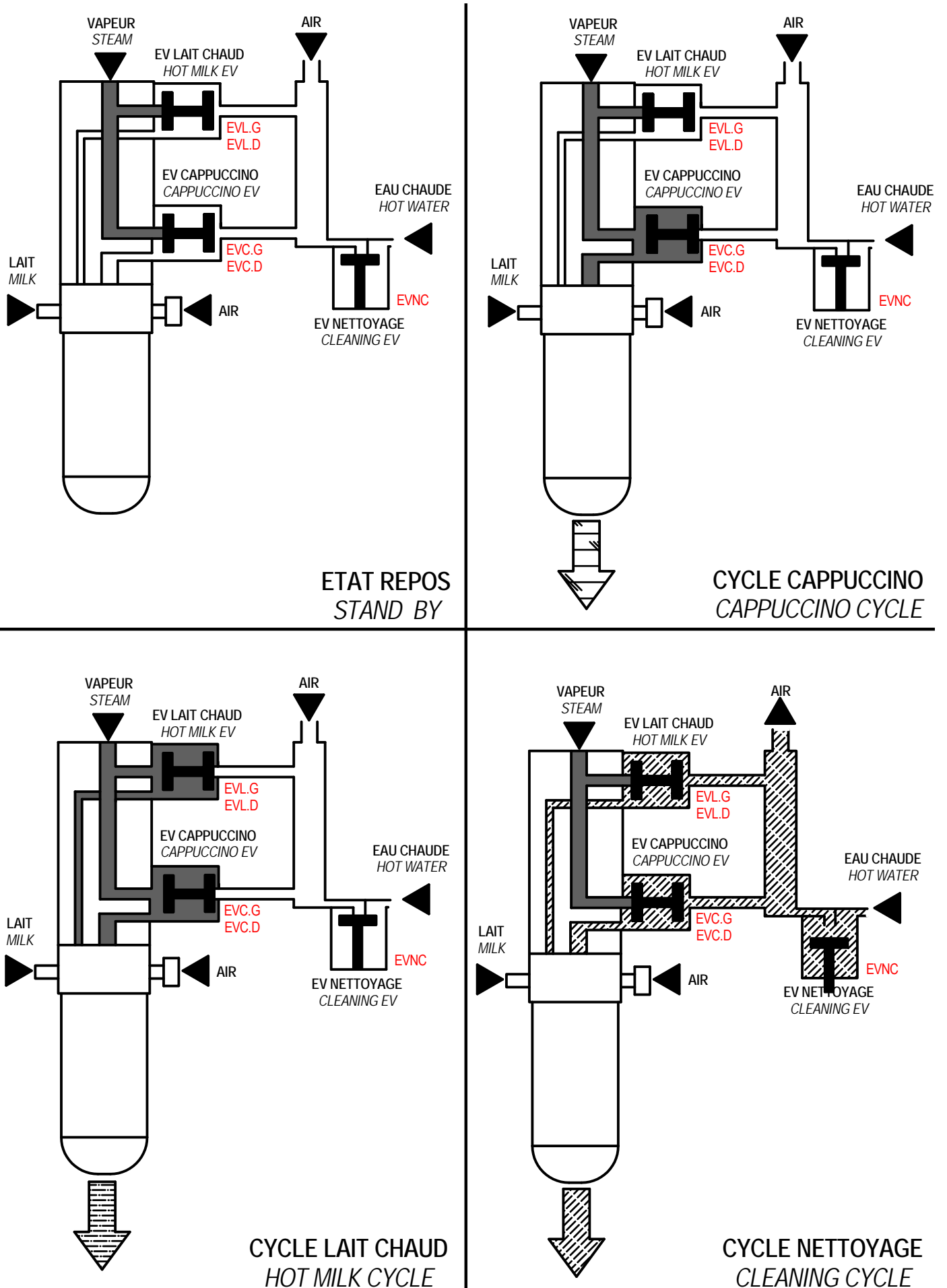
Decompression cycle.



Cleaning cycle.



◆ Cappuccino Cycle



◆ Milk system Cycle

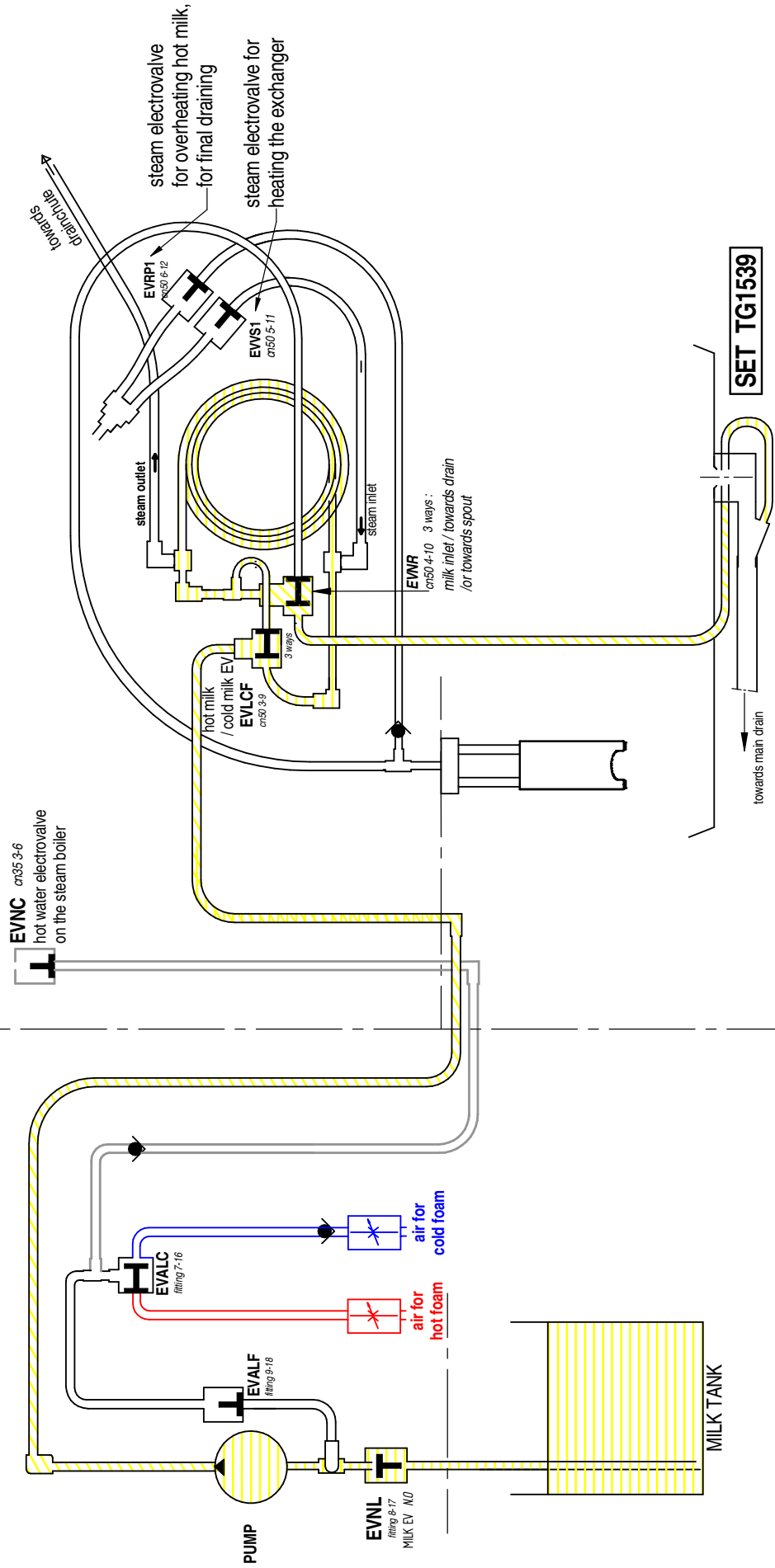
ON THE REFRIGERATOR

SET TG1363 pump assembly V2 retrofit

or **SET TG1360** serial mounting, from november 2018
on 8 liter fridge FG16 ref 93009

IN THE MACHINE

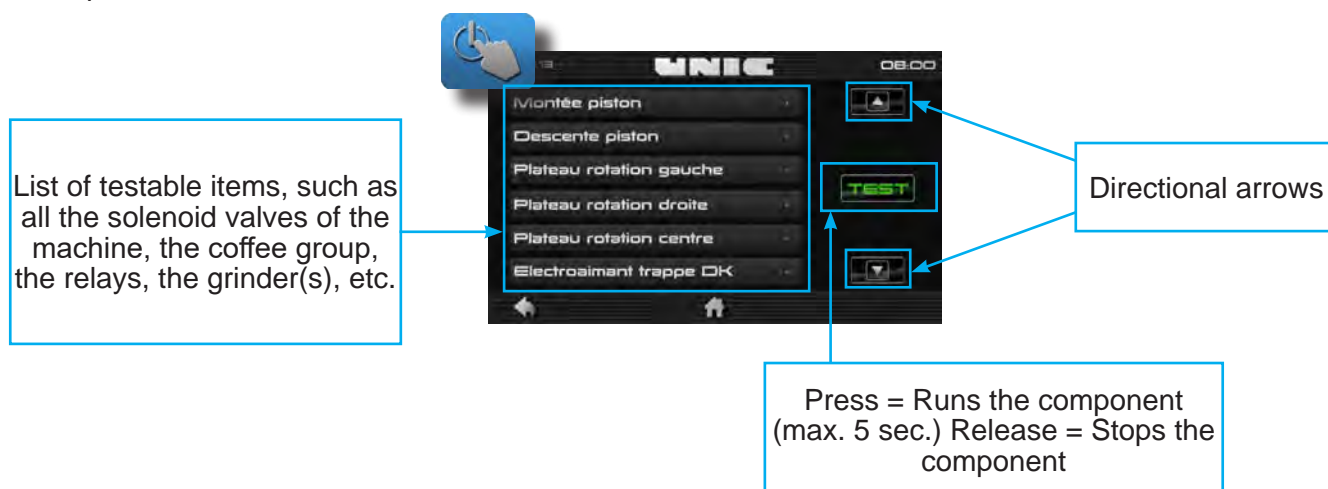
SET TG1361 exchanger assembly V2
retrofit and serial mounting



► Component test

When entering the menu the machine switches to the “test” mode (on the duo the right screen is disabled), the group and steam heating are disabled.

Note: Self-checks 1 and 2 are carried out after having left the test menu, and then the machine goes into normal operation.



	Piston LEFT up	EVKG	EV left coffee
	Piston LEFT down	EVP1	EV pre infusion 1
	Piston RIGHT up	EVLCF	Hot-cold milk selection
	Piston RIGHT down	EVNR	EV steam/EV cleaning-rinsing
	Plateau to LEFT position	EVNO	EV bloc de nettoyage
	Plateau to CENTER position	EVALF1	EV cold milk air
	Plateau to RIGHT position	EVNL1	EV cleaning milk
	Find known plateau position	EVALC1	EV hot milk air
RSV1	Solid state relay steam 1	EVLG_EVVS	EV left LC latte outlet/EV coil pipe steam
RSV2	Solid state relay steam 2	EVAEG	EV water addition left coffee
RSV3	Solid state relay steam 3	EVCG_EVRP	EV left LC cappu outlet/EV rinsing purge
RSC1	Solid state relay coffee 1	EVNC	EV cleaning cappuccino
RSC2	Solid state relay coffee 2	EVKD_EVM1	EV right coffee/EV mixer 1
RSC3	Solid state relay coffee 3	EVAED_EVM2	EV water addition right coffee/EV mixer 2
MAC1	Grinder n°1 (purple)	EVCD	EV right LC cappu outlet
MAC2	Grinder n°2 (green)	EVL D	EV right LC latte outlet
MAC3	Grinder n°3 (orange)	EVP2	EV pre infusion 2
POMP	Motor pump	MM1	Motor mixer 1
CHGR	Heating group	MM2	Motor mixer 2
EAMAN	Electromagnet of DK door	MT1	Motor hopper 1
EVRE	EV filling	MT2	Motor hopper 2
EVSE	EV hot water outlet	FAN_SOL	Fan for soluble MT
EVS V	EV steam outlet	MPOMP	milk pump
EVNK	EV coffee cleaning		

► Cooling machine

Select the boiler to be cooled down and then press the 'refroidir' (cool) key. The temperatures and pressure are shown in real time.

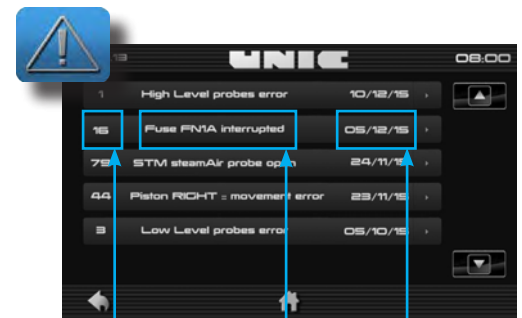
The Water key disables the heating of the Water/Steam boiler SOLO.

The Group coffee key disables the heating of the Coffee infusion Group Shutting down of the cooling is done manually.



► History of errors

This menu has no action on the electronics of the items affected by the error codes of the machine. It is simply a log of events in which the technician can leave a record of interventions carried out. The consultation of the aid is for information purposes.



Error code number

Detailed name of error code

Date of appearance of the error code

► Softener

Unic SA, uses two softener suppliers. BRITA® and BESTMAX™

Have the hardness of the water tested in the mains, and then refer to the technical documentation of the softener used to find the best settings.

Note: a softener must be changed every year, even if it does not reach the end of its filtering capacity.




► Descaling

The machine should be descaled only by a qualified technician.

► How to upgrade CPU and Display

STEP 1: CPU's identification

Software *without USB Key*



WARNING: to avoid CPU's destruction, you must be sure about CPU's identification

Visually



Before 28.xx.xx → Model 0

After 28.xx.xx → 2 possibilities 'Model 0' or 'model 1'



Model 0 (standard)



Model 1 (XL)

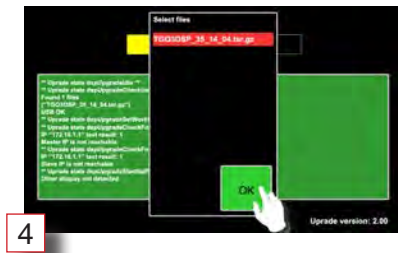
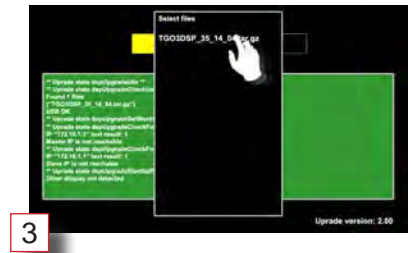
*Advice: leave the USB stick always connected to his socket.
For the Duo the Display's upgrade is done automatically on both side.*

When you insert USB Key, several possibilities:

- Update CPU
- Update Display
- Import/export parameters
- Import/export data drinks



STEP 2: insert USB Key, update display first.
(After V35.15.XX)



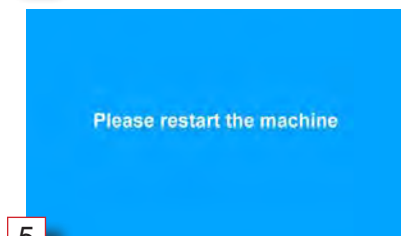
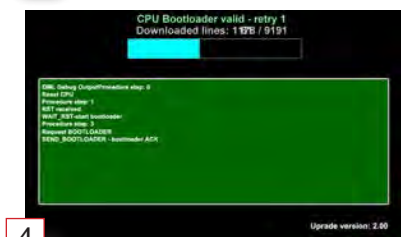
STEP 3: Update CPU. Follow process (page n°46)

STEP 4: Export / import data drink if it's necessary, The procedure does not change from previous versions.

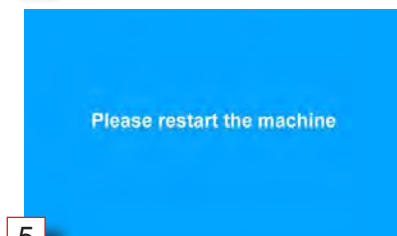


***STEP 3:** Update CPU

When the CPU is “model 0” follow process “model 0”

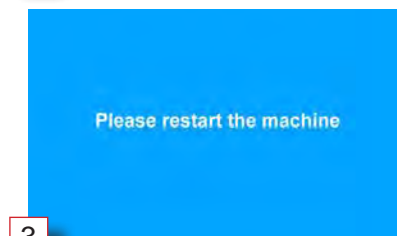


When CPU “model 1” is mounted instead “model 0” follow process “model 1”



When CPU “model 1” is already mounted in the machine:

process model will be lunch automatically After confirmation

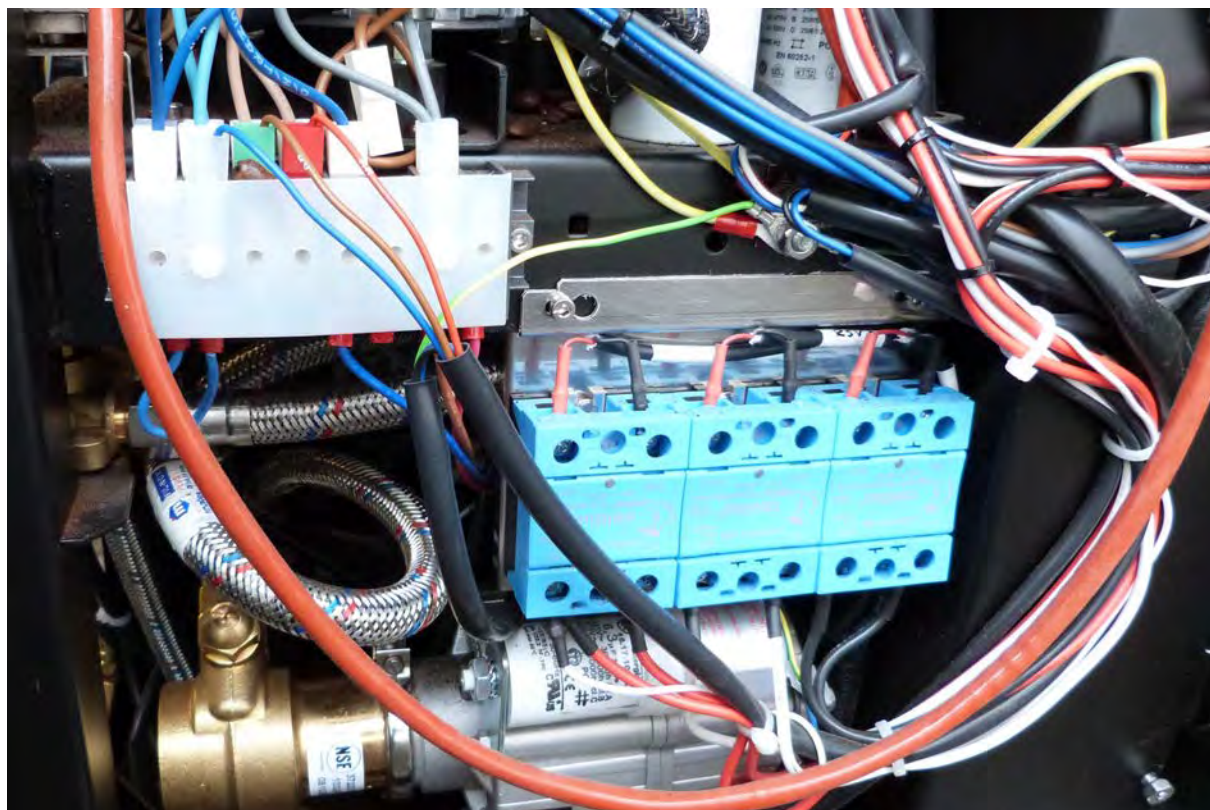


► List of wirings

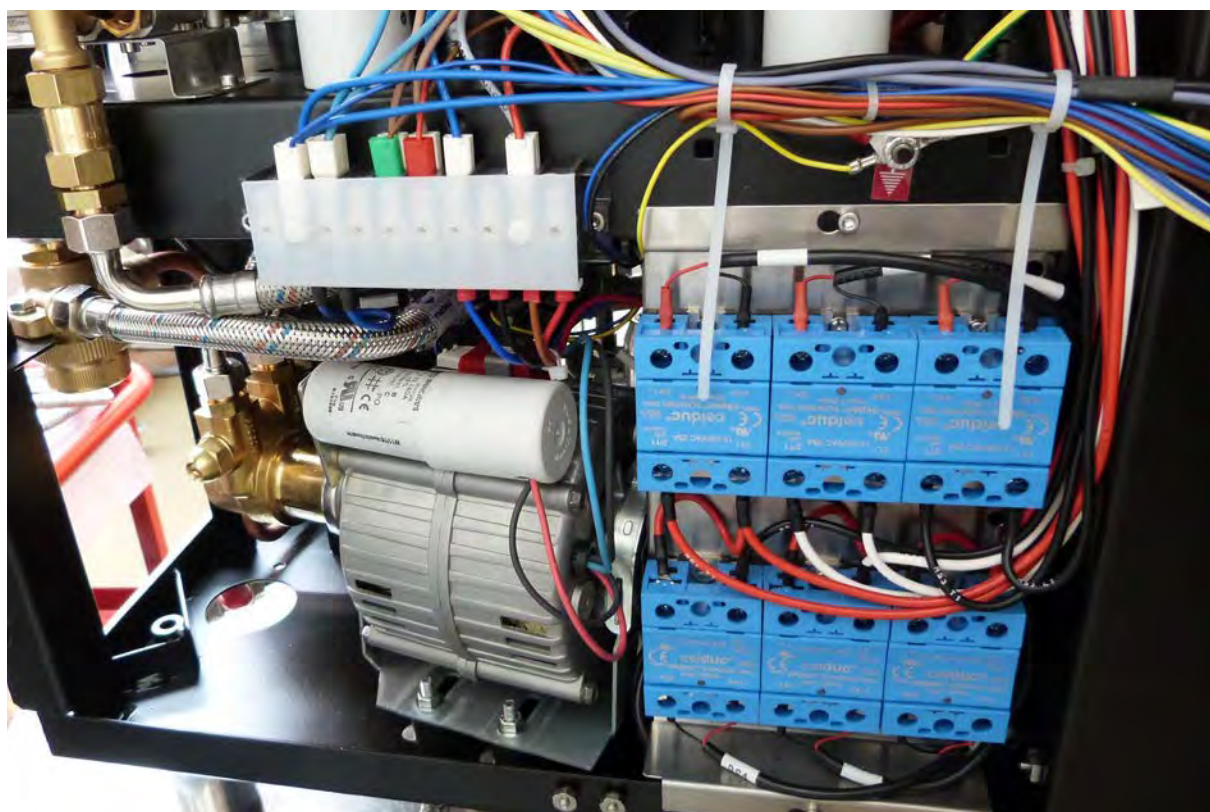
REFERENCE	DESIGNATION	CONNECTOR	NB PINS	VOLTAGE	QUANTITY			
					SOLO	DUO	MT	FRIGO
FR8019	BLUE CABLE CONN. COIL AND CONTACT			High	1	2	2	
FR8029	OPTICAL CELLS WITH CONNECTOR	CN6	16	Low	1			
FR8055	EV SV EV EXTENSION CABLE			Low	1	1	1	
TG8012	USB LINK CABLE	CN2	4	Low	1	1	1	
TG8013	RS 232 TFT SCREEN LEFT	CN3	16	Low	1	1		
TG8014	RS 232 TFT SCREEN RIGHT	CN4	16	Low		1	1	
TG8016	MOTOR TRAY ADAPTER CABLE	CN22	2	Low	1	1	1	
TG8017	STEAM BOILER & MAINS CABLE	CN7	10	Low	1	1	1	
TG8027	THERMOSTAT PROBES & LEVEL PROBES	CN17	10	Low	1	1	1	
		CN26	4					
		CN27	4					
TG8029	RIGHT CONTROL CABLE	CN14	4	Low		1	1	
		CN38	8					
		CN39	4					
TG8030	COFFEE GROUNDS DRAWER SAFETY	CN20	4	Low	1	1	1	
TG8034	BIN, BLENDER, POWDER FAN	CN24	12	Low			1	
TG8037	CABLE, TRAP & PIST. COD. SAFETY MOTOR CTRL	CN8	4	Low	1	1	1	
		CN9	4					
		CN12	6					
		CN15	6					
		CN23	4					
TG8038	Cable, STAT relay CONTROL. HOT MT	CN30	6	Low			1	
TG8039	STAT relay CTRL. HOT STEAM / COFFEE	CN29	6	Low	1	1	1	
TG8040	Cable, STAT relay CONTROL. HOT STEAM	CN30	6	Low		1		
TG8041	SV CTRL, REFRIGERATOR PUMP PART 1	CN32	6	Low				1
		CN36	6					
		CN50	12					
TG8042	SV CTRL, REFRIGERATOR PUMP PART 2			Low				1
TG8043	CÂBLE CMD EVRE, EVSE ,EVSV,EVKG	CN34	20	Low	1	1	1	
TG8045	CÂBLE EV CAPPUCCINO LEFT	CN35	6	Low	1	1		
TG8049	CÂBLE CPU GND FRONT PANEL			Earth	1	1	1	
TG8050	CÂBLE GRINDER R,V,O,RES GR,RI,PUMP	CN41	12	High	1	1	1	
		CN44	8					
		CN47	6					
TG8057	CABLE, COFFEE BOILER			High		1		
TG8058	CABLE, COFFEE STEAM GROUP			High	1	1	1	
TG8059	CABLE, STATIC RELAY JUMPER			High		3	1	
TG8060	CABLE, MT BOILER			High			1	
TG8062	CABLE, SWITCH OUTPUT			High	1	1	1	
TG8100	CÂBLE INTER, DISPLAY T°C REG C- F			High				1
TG8101	SUPPLY CABLE			High				1

◆ Static relays

SOLO

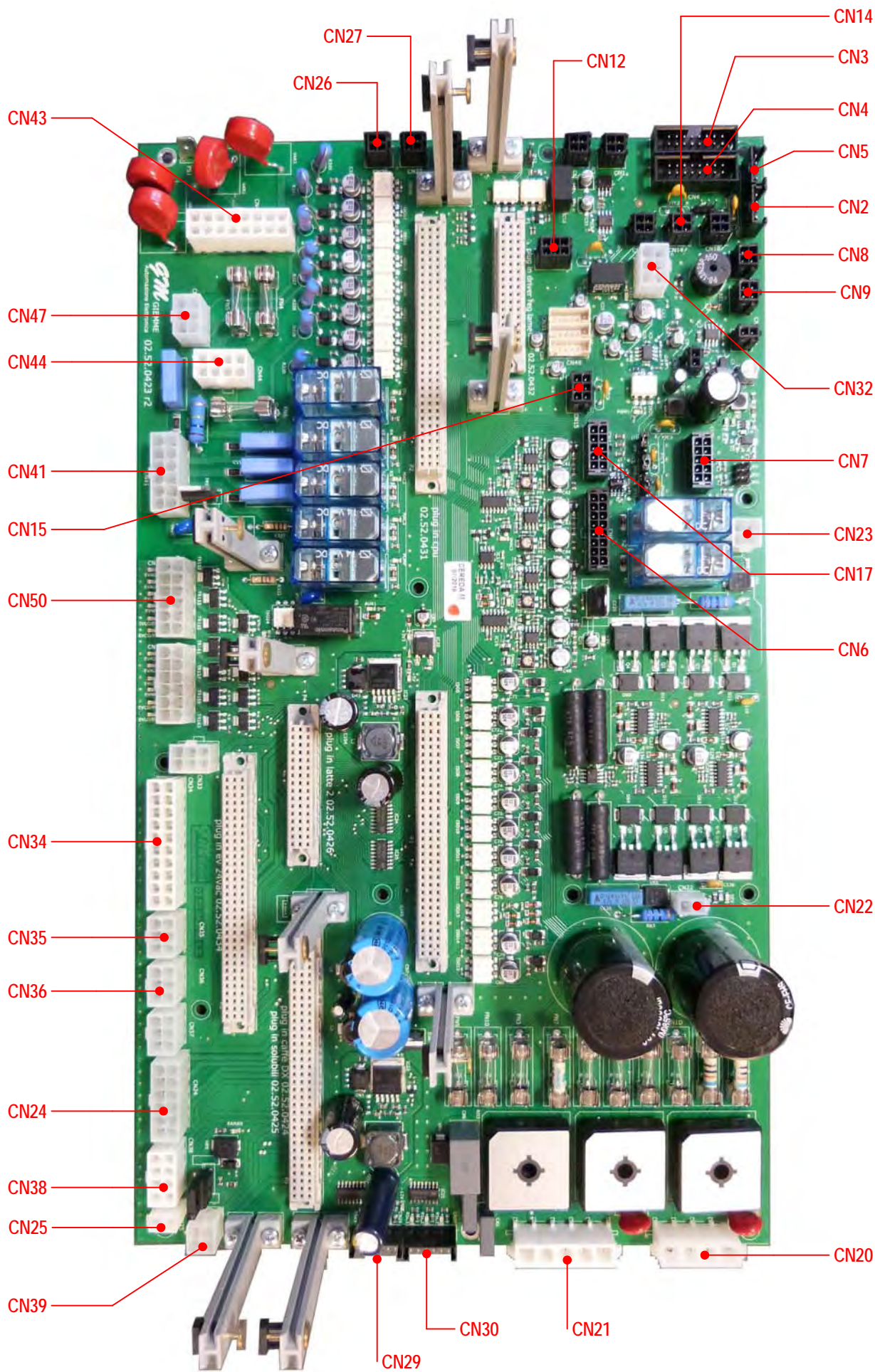


DUO



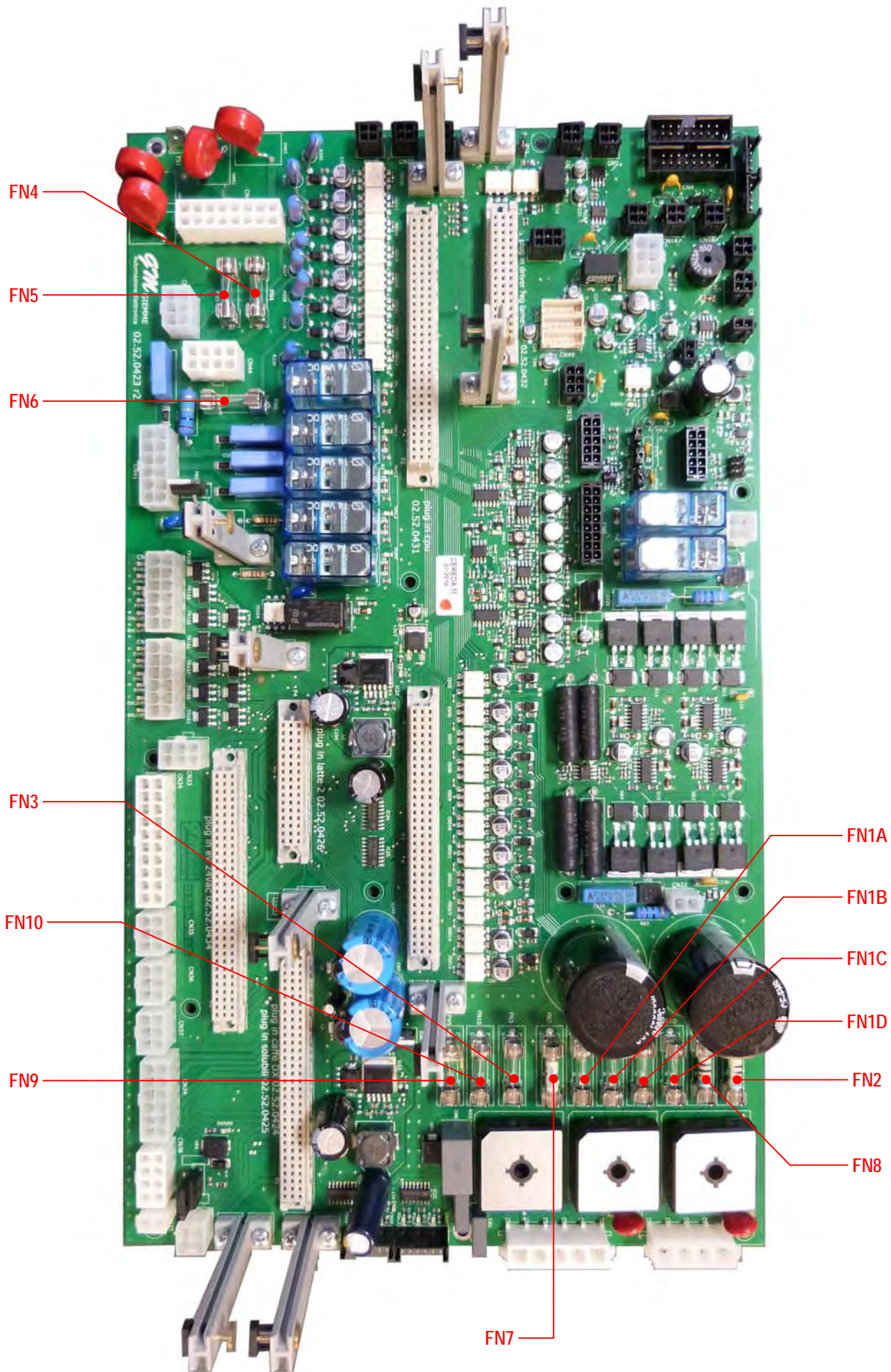
◆ Connectors

	DESIGNATIONS FR	DESIGNATIONS GB
CN2	IO232	IO232
CN3	RS232	RS232
CN4	RS232	RS232
CN5	RS232 CONSOLE DEBUG	RS232 DEBUG CONSOLE
CN6	CAPTEUR PRESSION / PRESENCE CAFE (TREMIE)	PRESSURE SENSOR / COFFEE PRESENCE (HOPPER)
CN7	CAPTEUR PRESSION EAU-VAPEUR	WATER-STEAM PRESSURE SENSOR
CN8	CAPTEUR EFFET HALL	EFFET HALL SENSOR
CN9	SECURITE ENTREE D'EAU	NO WATER SAFETY
CN12	COMPTEUR VOLUMETRIQUE D-G & EAU CHAUDE	DOSING DEVICE RIGHT-LEFT & HOT WATER
CN14	CAPTEUR GROUPE D & EFFET HALL BAS	GROUP RIGHT & EFFET HALL LOW SENSOR
CN15	CAPTEUR PISTON	PISTON SENSOR
CN17	SONDE LAIT / CHAUDIERE THERM.VAP. / GR. CAFE	MILK PROBE / COFFEE GR. / STEAM THERM. BOILER
CN20	SWITCH BAC A MARC	SWITCH DRAWER
CN21	TRANSFORMATEUR TOROIDAL	TOROIDAL TRANSFORMER
CN22	MOTEUR PLATEAU	TURNTABLE MOTOR
CN23	MOTEURS PISTONS	PISTONS MOTORS
CN24	VENTILATEUR / SOLUBLES MT	FAN / MT SOLUBLES
CN25	TRAPPE ELECTRO-AIMANT	ELECTROMAGNET HATCH
CN26	LED GAUCHE	LED LEFT
CN27	LED DROIT	LED RIGHT
CN29	RELAIS STATIQUES / CHAUDIERE VAPEUR	STATIC RELAY / STEAM BOILER
CN30	RELAIS STATIQUES / CHAUDIERE CAFE	STATIC RELAY / COFFEE BOILER
CN32	POMPE LAIT 2	MILK PUMP 2
CN34	ELECTROVANNES 24Vac	24Vac ELECTROVALVES
CN35	ELECTROVANNES CAPPUCCINO GAUCHE	LEFT CAPPUCCINO ELECTROVALVES
CN36	ELECTROVANNES 24Vac / LAIT 1	24Vac / MILK 1 ELECTROVALVES
CN38	EV 24Vac CAFE DROIT / SOLUBLES MT	RIGHT COFFEE / MT SOLUBLES 24Vac EV
CN39	ELECTROVANNES CAPPUCCINO DROIT	RIGHT CAPPUCCINO ELECTROVALVES
CN41	POMPE / MOULINS / CARTOUCHE / GROUPE	PUMP / GRINDERS / CARTRIDGE / GROUP
CN43	SECURITE MACHINE FILTRAGE	FILTERING MACHINE SAFETY
CN44	TELERUPTEUR	STEPPING SWITCH
CN47	SECURITE CAFE-VAPEUR / GROUPE (OPTO)	COFFEE-STEAM SAFETY / GROUP (OPTO)
CN50	ELECTROVANNES 24V	24V ELECTROVALVES



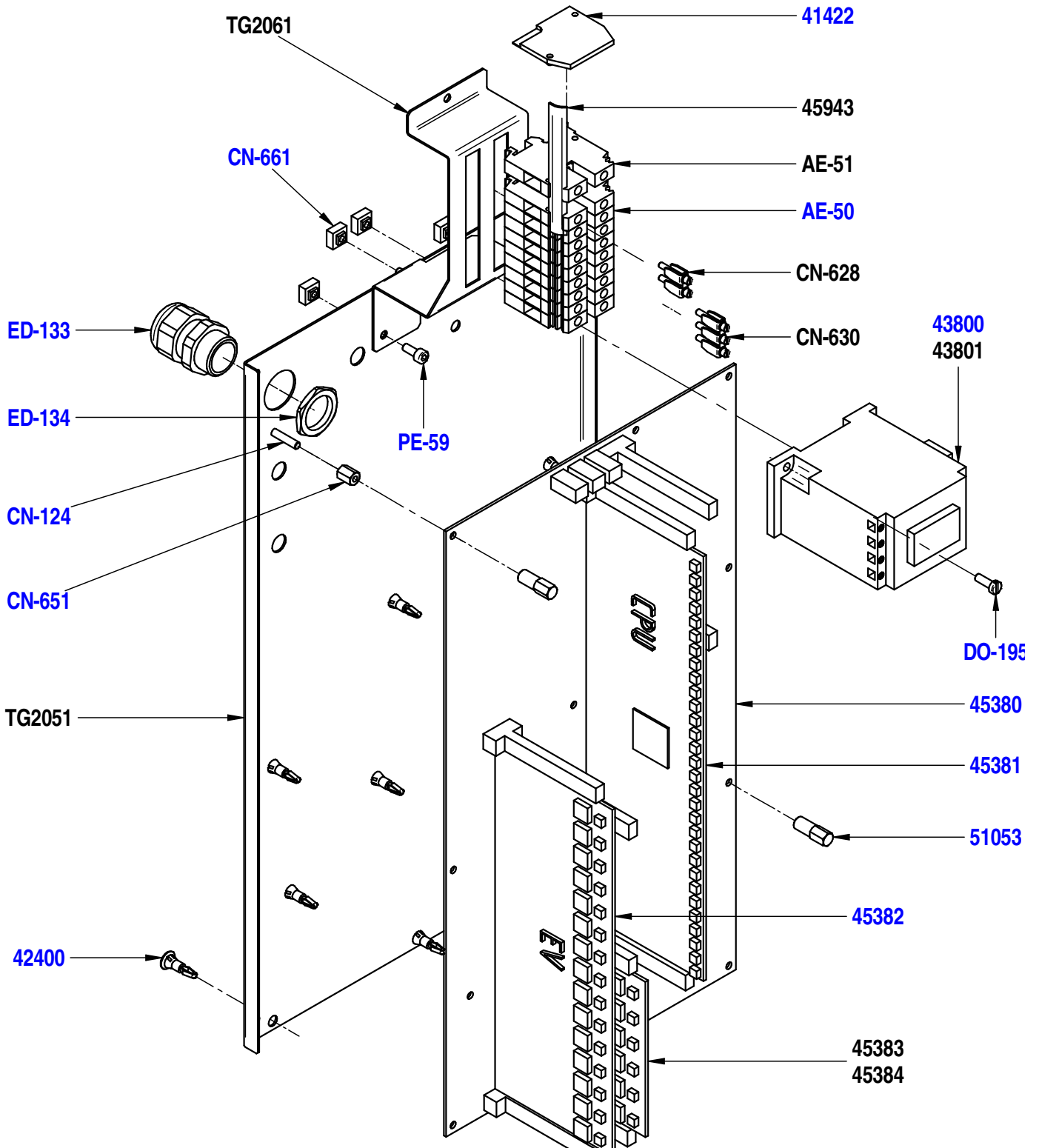
◆ Fuses

REF	DESIGNATIONS FR	DESIGNATIONS GB
FN1A	5A / EV-AC1-A / MODULE 24V: EVRE - EVSE - EVSV - EVNC - EVNK/EVNC - EVA - EVV	
FN1B	5A / EV-AC1-B / MODULE SOLUBLE: MT1 - MT2 - FAN SOL - EVKD/EVM1 - EAED/EVM2 MODULE CAFE DX: EVKD/EVM1 - EAED/EVM2 - EVCD - EVP2 - EVLD - EVS2	
FN1C	5A / EV-AC1-C / MODULE 24V: EVNKG - EVAEG - EVLG - EVCG - EVP1 - EVS1	
FN1D	5A / EV-AC1-D / MODULE 24V: EVAL1 - EVNL1 - EVVL1 - EVAL2 - EVNL2 - EVLL2	
FN2	10A / 22V / ALIM MOTEUR PISTON & PLATEAU	<i>PISTON & TURNTABLE MOTOR SUPPLY</i>
FN3	5A / 19V / +24V SECONDAIRE TRANSFO	<i>TRANSFO SECONDARY</i>
FN4	5A / TELERUPTEUR	<i>STEPPING SWITCH</i>
FN5	5A / NEUTRE	<i>NEUTRAL</i>
FN6	5A / RELAIS / MAC1 - MAC2 - MAC3 - GET1 - GET2 - GET3 - POMPE - AUX1 - CHGR	
FN7	10A / +V PLATEAU / MOTEUR PLATEAU	<i>TURNTABLE MOTOR</i>
FN8	10A / +V PISTON / MOTEUR PISTON	<i>PISTON MOTOR</i>
FN9	5A / +24V CONTINU + POMPE LAIT	<i>DC + MILK POMP</i>
FN10	5A / +12V, +9V, +5V, +3.3V BASSE TENSION CONTINUE ALIM CAPTEUR	
43112	FUSIBLE 5 X 20 10A RETARDE T	<i>FUSE 10A DELAYED</i>
43115	FUSIBLE 5 X 20 5A RETARDE T	<i>FUSE 5A DELAYED</i>



► Electronic Cards

◆ Turntable set

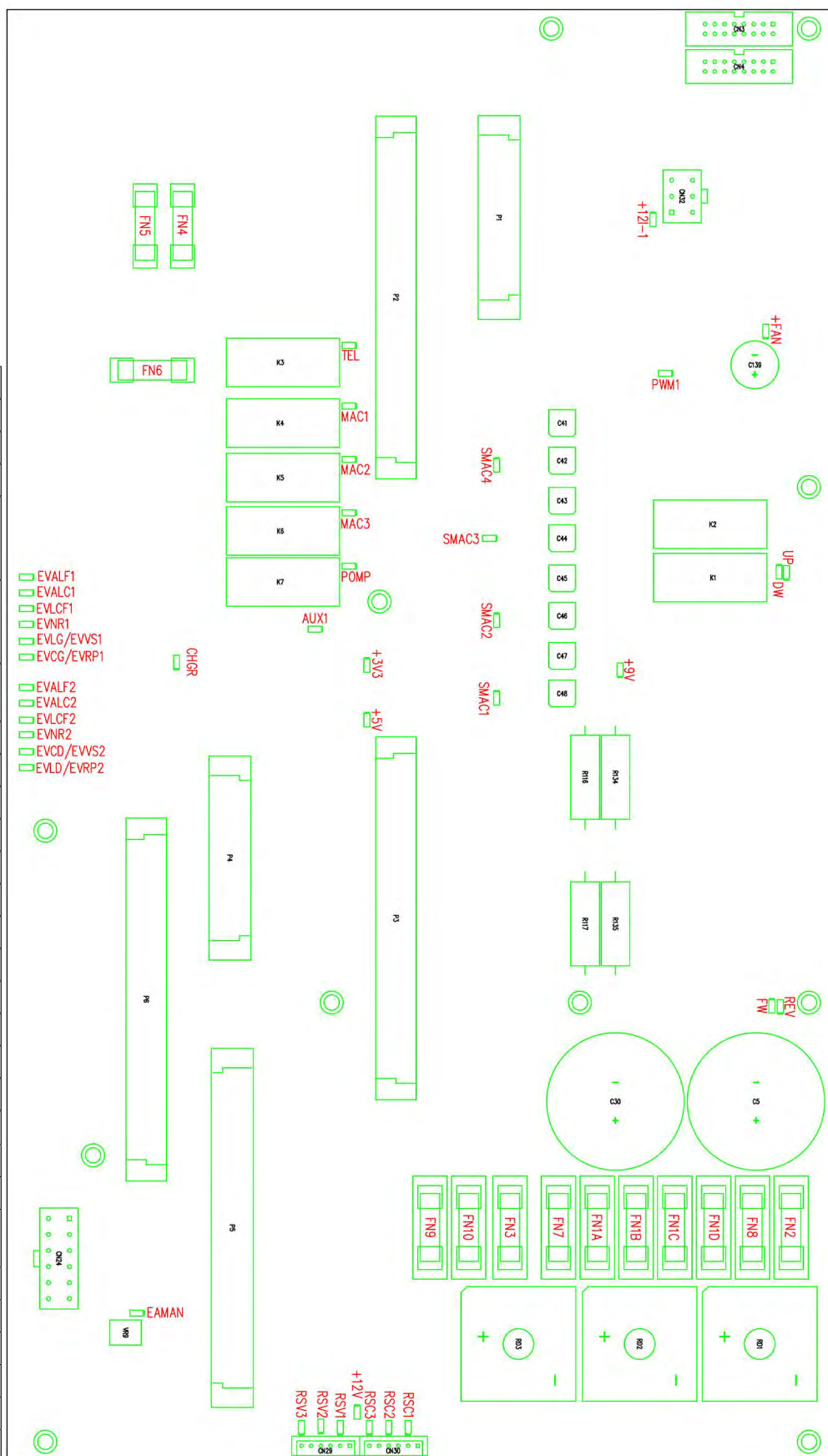


► LED Identification on board

Identification

LED sur carte mère 45380

EVALF1	Cold milk air SV
EVALC1	Hot milk air SV
EVLCF1	
EVNR1	
EVLG / EVVS1	SV, latte from the LC outlet, left / steam coil SV
EVCG / EVRP1	SV, cappu. LC Output left / Cleaning steam, purge and flush SV
EAMAN	Electro-magnet manual door
RSC1	Static coffee relay 1
RSC2	Static coffee relay 2
RSC3	Static coffee relay 3
RSV1	Static steam relay 1
RSV2	Static steam relay 2
RSV3	Static steam relay 3
POMP	Electric pump
MAC1	Grinder no 1 (purple)
MAC2	Grinder no 2 (green)
MAC3	Grinder no 3 (orange)
TEL	Main switch
SMAC1	Coffee safety no 1
SMAC2	Coffee safety no 2
SMAC3	Coffee safety no 3
SMAC4	Not used
CHGR	Heating element of the Group
AUX1	
+3V3	
+5V	5V supply on light
+9V	9V supply on light
+12V	12V supply on light
+FAN	Fan supply light

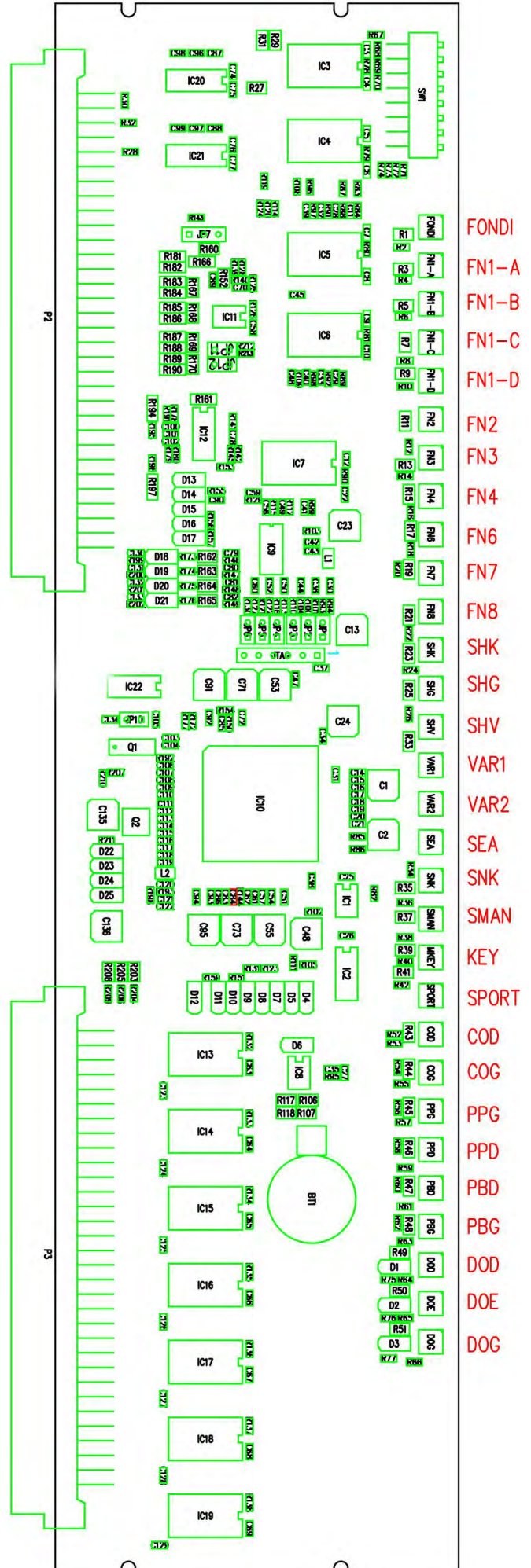


Identification

LED sur carte CPU

45381

FONDI	Coffee grounds tray
FN1A	MODULE 24V: EVRE - EVSE - EVSV - EVNC - EVNK/EVNC - EVA - EVV
FN1B	MODULE SOLUBLE: MT1 - MT2 - FAN SOL - EVKD/EVM1 - EAED/EVM2 MODULE CAFE DX: EVKD/EVM1 - EAED/EVM2 - EVCD - EVP2 - EVLD - EVS2
FN1C	MODULE 24V: EVNKG - EVAEG - EVLG - EVCG - EVP1 - EVS1
FN1D	MODULE 24V: EVAL1 - EVNL1 - EVVL1 - EVAL2 - EVNL2 - EVLL2
FN2	Piston and tray motor supply
FN3	+24V
FN4	Main switch
FN6	MAC1 - MAC2 - MAC3 - GET1 - GET2 - GET3 - POMPA - AUX1 - CHGR
FN7	Tray motor
FN8	Piston motor
SHK	Heater element safety system, coffee boiler
SHG	Heater element safety system, group
SHV	Heater element safety system, steam boiler
VAR1	
VAR2	
SEA	Water presence safety system
SNK	Plug safety system for the group cleaning circuit
SMAN	Manual door safety system
KEY	
SPORT	
COD	Encoder, right cylinder
COG	Encoder, left cylinder
PPG	Tray position to the left
PPD	Tray position to the right
PBD	Right cylinder low position
PBG	Left cylinder low position
DOD	Right volumetric meter
DOE	Hot water outlet volumetric meter
DOG	Left volumetric meter

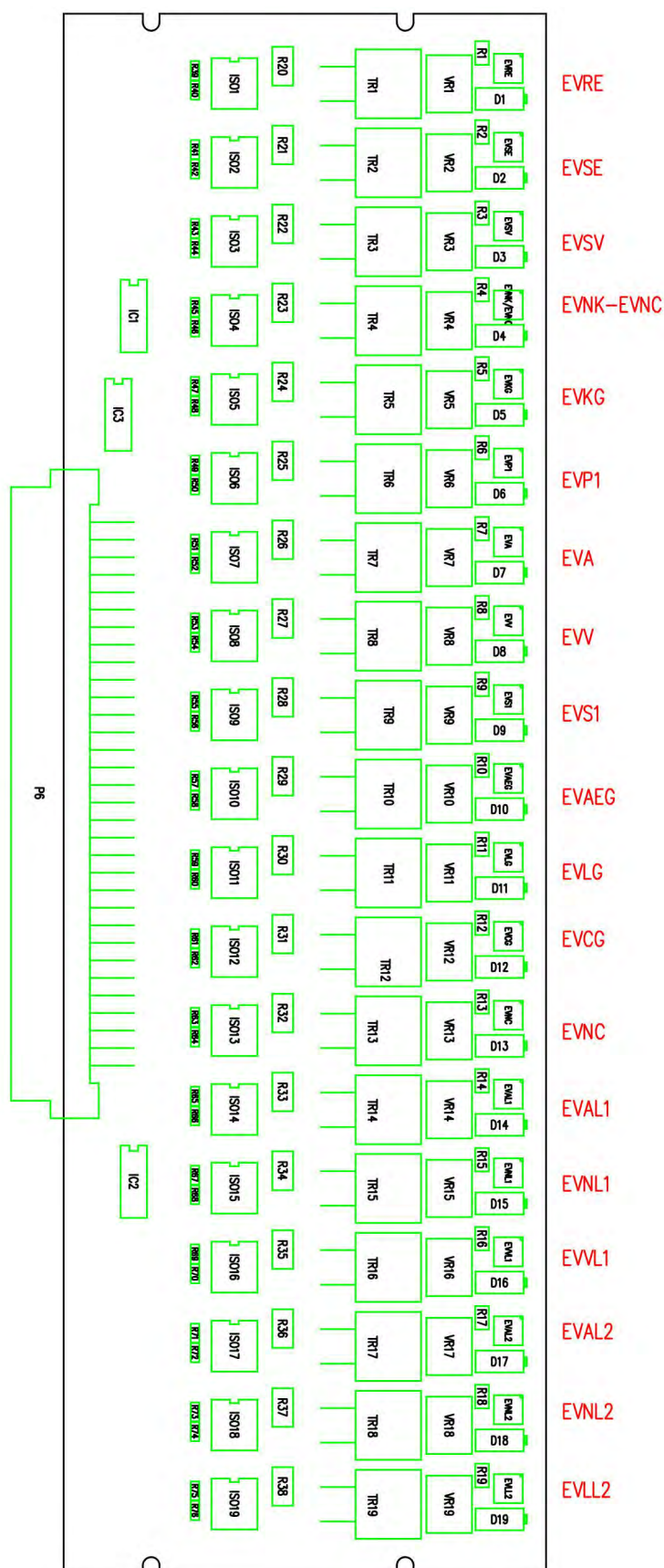


Identification

LED sur carte EV

45382

EVRE	Filling SV
EVSE	Hot water outlet SV
EVSV	Steam outlet SV
EVNK / EVNC	Coffee cleaning SV
EVKG	Left coffee SV
EVP1	Pre-infusion 1 SV
EVA	Air SV
EVV	Steam SV
EVS1	
EVAEG	SV add water at coffee outlet, left
EVLG	Latte from the LC outlet, left SV
EVCG	Cappuccino from the LC outlet, left SV
EVNC	Cappuccino cleaning SV
EVAL1	Cold air SV
EVNL1	Milk SV
EVVL1	Hot air SV
EVAL2	
EVNL2	
EVLL2	

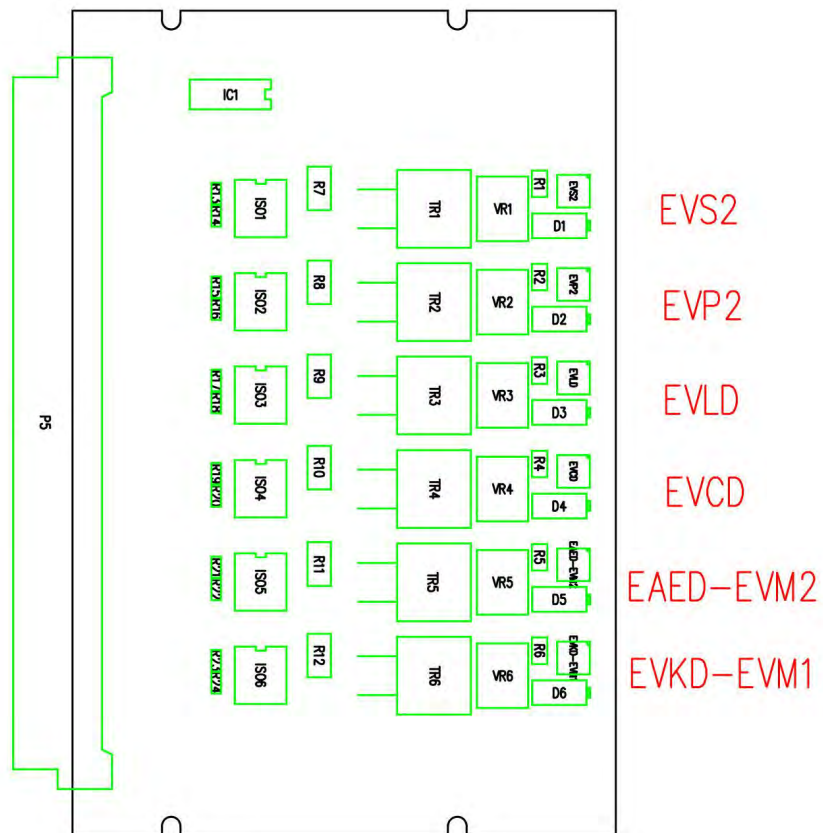


Identification

LED module

groupe 2

45384



EVS2	
EVP2	Pre-infusion 2 SV
EVLD	Latte from the LC outlet, right SV
EVCD	Cappuccino from the LC outlet, right SV
EAED / EVM2	SV add water at coffee outlet, right
EVKD / EVM1	Right coffee SV

► **Active component**

OPTION LC		24VDC pump option	
SM1	Coffee safety system, grinder no 1		
SM2	Coffee safety system, grinder no 2		
SM3	Coffee safety system, grinder no 3		
SM4	Coffee safety system, grinder no 4		
CHU	Moisture sensor		
CPV	Steam pressure sensor		
CPR	Mains pressure sensor		
MGET1	Coin acceptor no 1 micro switch		
MGET2	Coin acceptor no 2 micro switch		
SNB	Low level probe		
SNH	High level probe		
THV	Steam boiler thermostat probe		
THG	Group thermostat probe		
THK	Coffee boiler thermostat probe		
CO. D	Encoder, right cylinder		
PB. D	Right cylinder low position		
EVK.D	Right coffee SV		
EVAE.D	SV add water at coffee outlet, right		
EVINF.D	Infusion D (cleaning) SV		
EVS2			
EVC.D	Cappuccino from the LC outlet, right SV	EVVS2	Steam coil SV
EVL.D	Latte from the LC outlet, right SV	EVRP2	Steam cleaning purge-flush SV
MM1	Mixer motor 1		
MM2	Mixer motor 2		
MT1	Bin 1 motor		
MT2	Bin 2 motor		
SFAN	Soluble fan		
SMAN	Manual door safety system		
SEA	Water presence safety system		
SNK	Plug safety system for the group cleaning circuit		
DO. D	Right volumetric meter		
DO. G	Left volumetric meter		
DO. E	Hot water outlet volumetric meter		
CO. G	Encoder, left cylinder		
PP. D	Tray position to the right		
PP. G	Tray position to the left		
PB. G	Left cylinder low position		
EA.MAN	Manual door electro-magnet		
RSV1	Static steam relay 1		
RSV2	Static steam relay 2		
RSV3	Static steam relay 3		
RSC1	Static coffee relay 1		

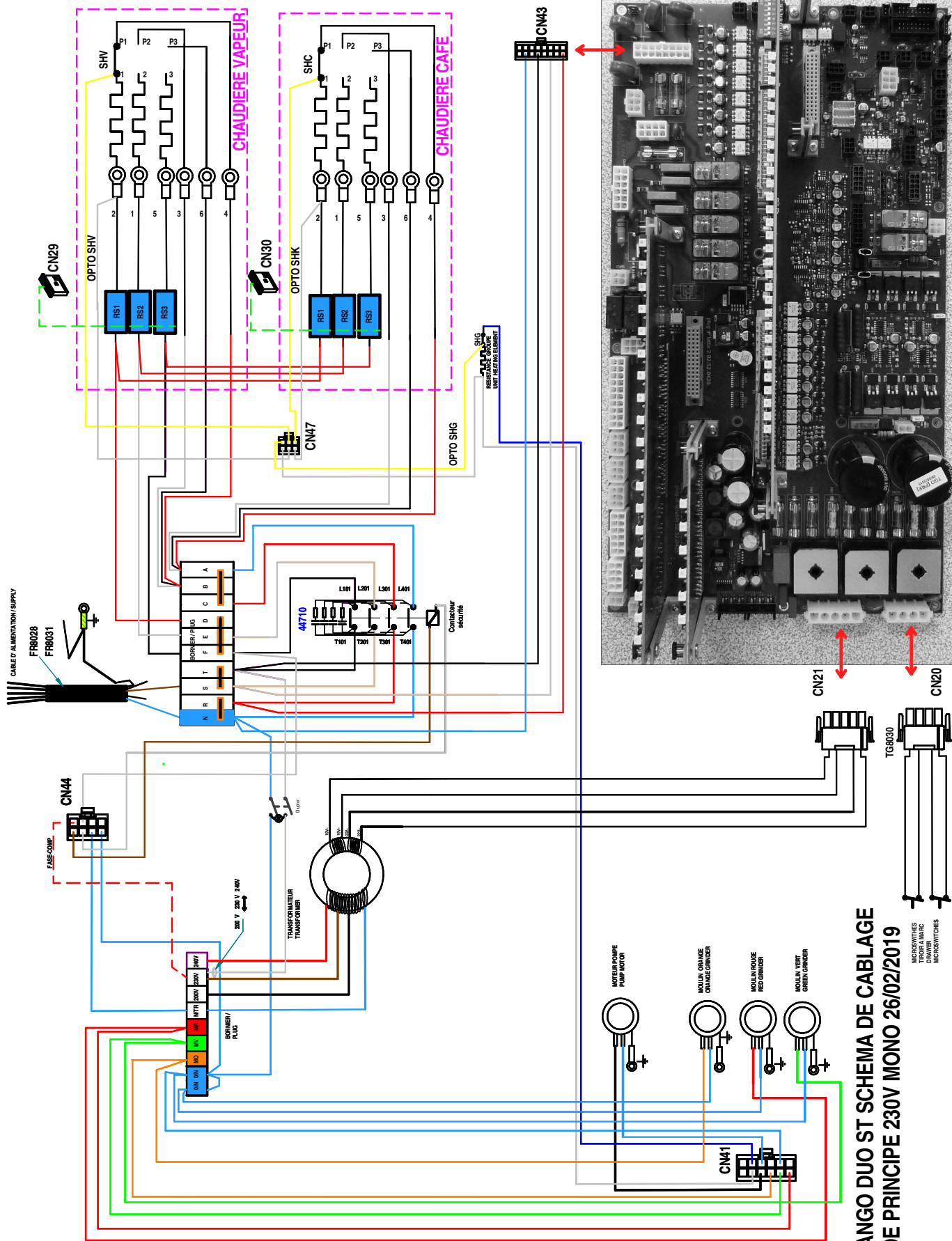
RSC2	Static coffee relay 2		
RSC3	Static coffee relay 3		
EVALF1	Cold milk air SV	EVALF1	Cold air SV
EVNL1	Milk cleaning SV	EVNL1	Milk SV
EVALC1	Hot milk air SV	EVALC1	Hot air SV
EVRE	Filling SV		
EVSE	Hot water outlet SV		
EVKN	Coffee cleaning SV		
EVK.G	Left coffee SV		
EVP1	Pre-infusion 1 SV		
EVA	Air SV	EVLCF	Hot / cold milk selection SV
EVV	Steam SV	EVNR	Clean / flush SV
EVDC	DISCHARGE (cleaning) SV		
EVAE.G	SV add water at coffee outlet, left		
EVL.G	Latte from the LC outlet, left SV	EVVS1	Steam coil SV
EVC.G	Cappuccino from the LC outlet, left SV	EVVP1	Steam cleaning purge-flush SV
EVNC	Cappuccino cleaning SV	EVNL	Milk pump cleaning SV
MAC 1	Grinder no 1 (purple)		
MAC 2	Grinder no 2 (green)		
MAC 3	Grinder no 3 (orange)		
POMP	Pump motor		
SNL1	Milk level probe 1		
SNL2	Milk level probe 2		
EVALF2	Cold milk air 2 SV	EVALF2	Cold air SV
EVNL2	Milk cleaning 2 SV	EVNL2	Milk SV
EVALC2	Hot milk air 2 SV	EVALC2	Cold / hot air SV
GET1	Coin acceptor coil no 1		
GET2	Coin acceptor coil no 2		

► List of error codes

Error code no	Component	Error code description
1		High level probe
2		Connection error, level probes
2		The two level probes not covered
3		Low level probe error
4		Tray rotation time-out
5	SHK	Coffee boiler heater overheating safety device
6	SHV	Steam boiler heater overheating safety device
7	SHG	Group boiler heater overheating safety device
8	SNK	Pellet cleaning unit plug open
9		Coffee grounds drawer out
10	Left piston	Lowering Time-out disconnected
10.1	Left piston	Lowering Time-out motor slow
10.2	Left piston	Lowering Time-out transmission
11	Right piston	Lowering Time-out disconnected
11.1	Right piston	Lowering Time-out motor slow
11.2	Right piston	Lowering Time-out transmission
13		Communication error, left screen
14		Communication error, right screen
15		Decaffeinated trap safety system
16	FN1A	Fuse broken
17	FN2	Fuse broken
18	FN3	Fuse broken
19	FN1B	Fuse broken
20	FN8	Fuse broken
21	FN1C	Fuse broken
22	FN1D	Fuse broken
23	FN4	Fuse broken
24	FN6	Fuse broken
25	FN7	Fuse broken
26		Screen fan over-voltage
27	THV	Steam overheating safety device
28	THG	Group overheating safety device
29	THK	Coffee overheating safety device
30		Boiler filling time-out
31	Left piston	Encoder Fault
31.1	Left piston	Encoder Fault
32	Left piston	Low position fault
33	Left piston	Does not rise safety time-out
34	Left piston	Movement error
35	Left piston	Rise safety time-out fault
35.1	Left piston	TKC Rise safety time-out fault

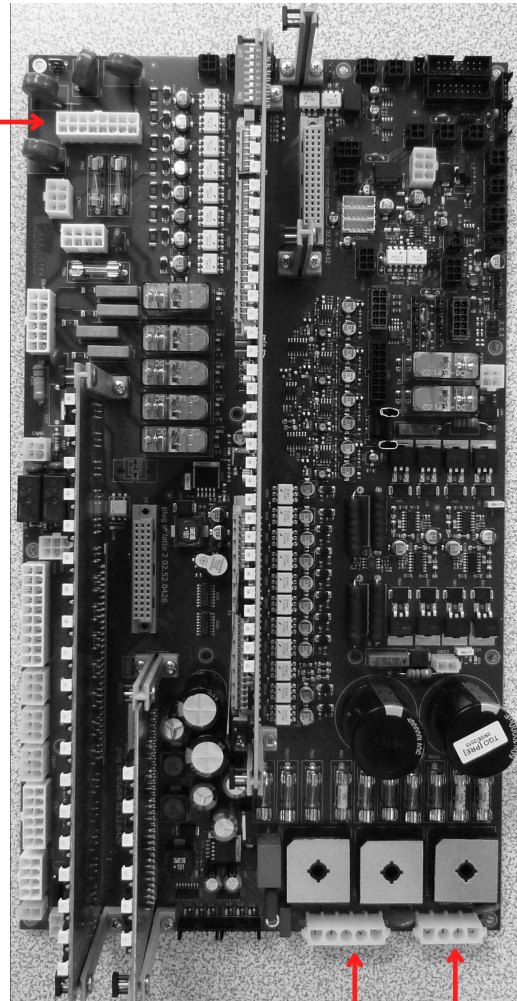
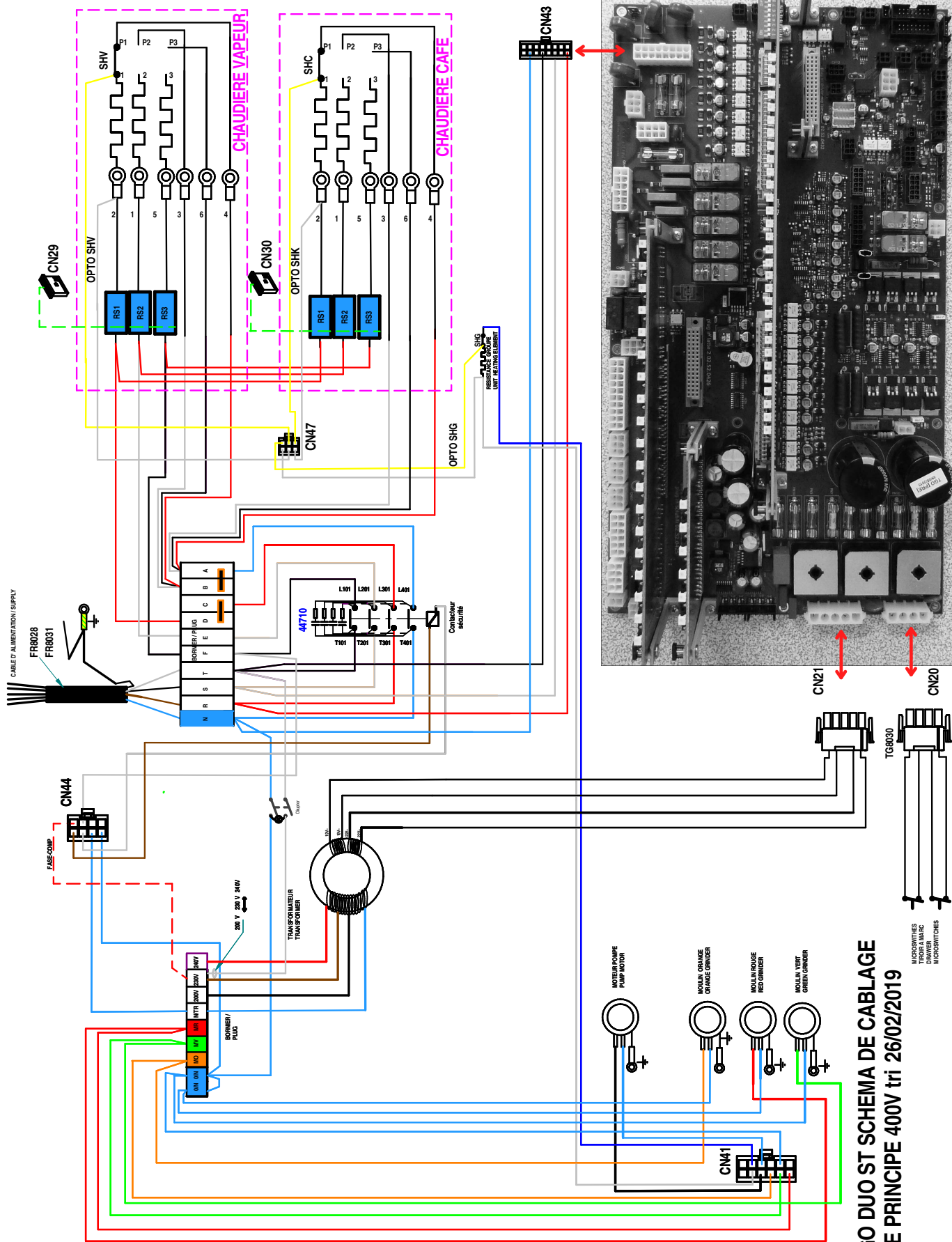
36	Left piston	Jammed or simultaneous faults on the encoder and the PMBas
37	Left piston	Does not move backwards
38	Left piston	Encoder Fault
41	Right piston	Encoder Fault
41.1	Right piston	Encoder Fault
42	Right piston	Low position fault
43	Right piston	Does not rise safety time-out
44	Right piston	Movement error
45	Right piston	Rise safety time-out fault
45.1	Right piston	TKC Rise safety time-out fault
46	Right piston	Jammed or simultaneous faults on the encoder and the PMBas
47	Right piston	Does not move backwards
48	Right piston	Encoder Fault
50	THK	Coffee boiler thermostat probe disconnected
51	THK	Coffee boiler thermostat probe, short circuit
52	Left piston	Over-voltage during descent
57	Left piston	Over-voltage during expulsion
60	THV	Steam boiler thermostat probe disconnected
61	THV	Steam boiler thermostat probe, short circuit
62	Right piston	Over-voltage during descent
66	Right piston	Over-voltage during expulsion
67		Volumetric meters reversed
70	THG	Group thermostat probe disconnected
71	THG	Group thermostat probe disconnected
72	CPV	Error
73	CPV	Short circuit
74	CPR	Error
75	CPR	Short circuit
76	CHU	Error
77	CHU	Short circuit
78	SEA	Inlet water pressure error
79	STM	Steamair probe disconnected
80	STM	Steamair probe disconnected in short circuit
81	DOG	Jammed
82	DOD	Jammed
83	DOE	Jammed
90		Machine settings corrupted
91		Piston settings corrupted
92		Calibration settings corrupted

► Electric wirings



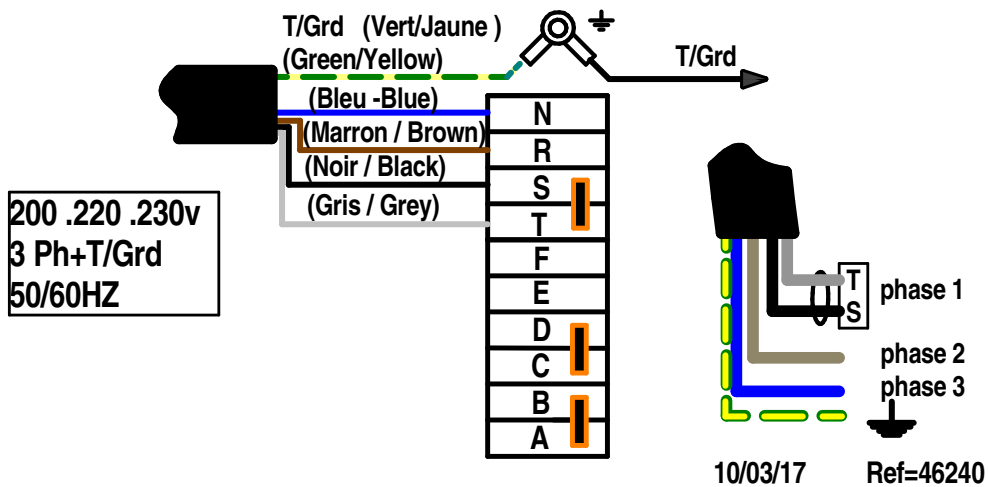
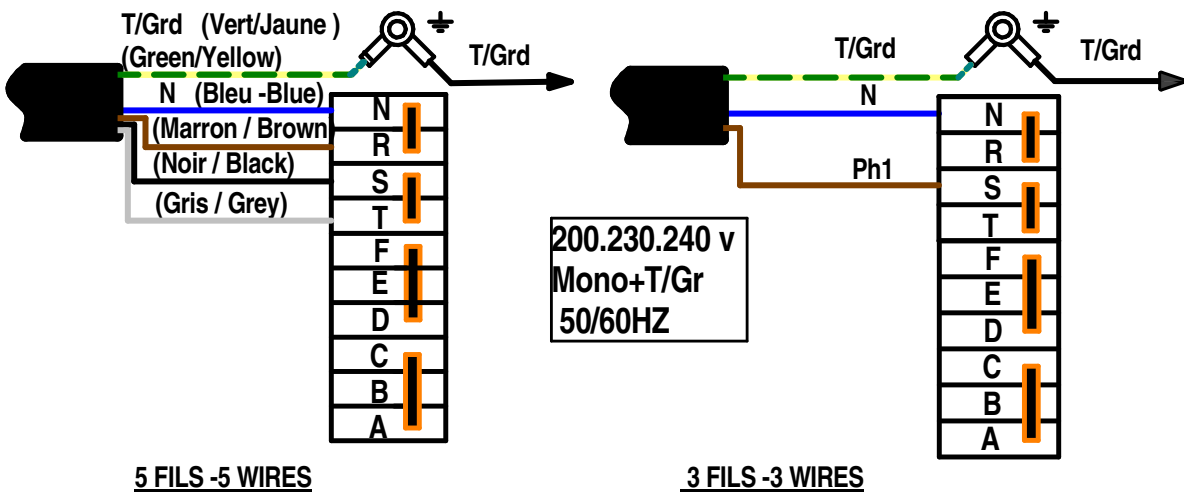
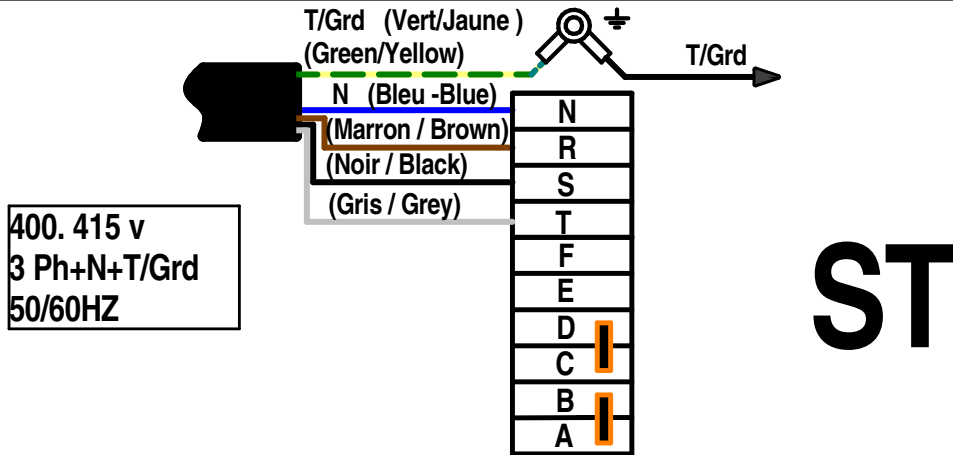
TANGO DUO ST SCHEMA DE CABLAGE
DE PRINCIPE 230V MONO 26/02/2019

MICROSWITCHES
MOLIN ORANGE
DOUVER
MOLIN ROUGE
MOLIN VERT
MICROSWITCHES

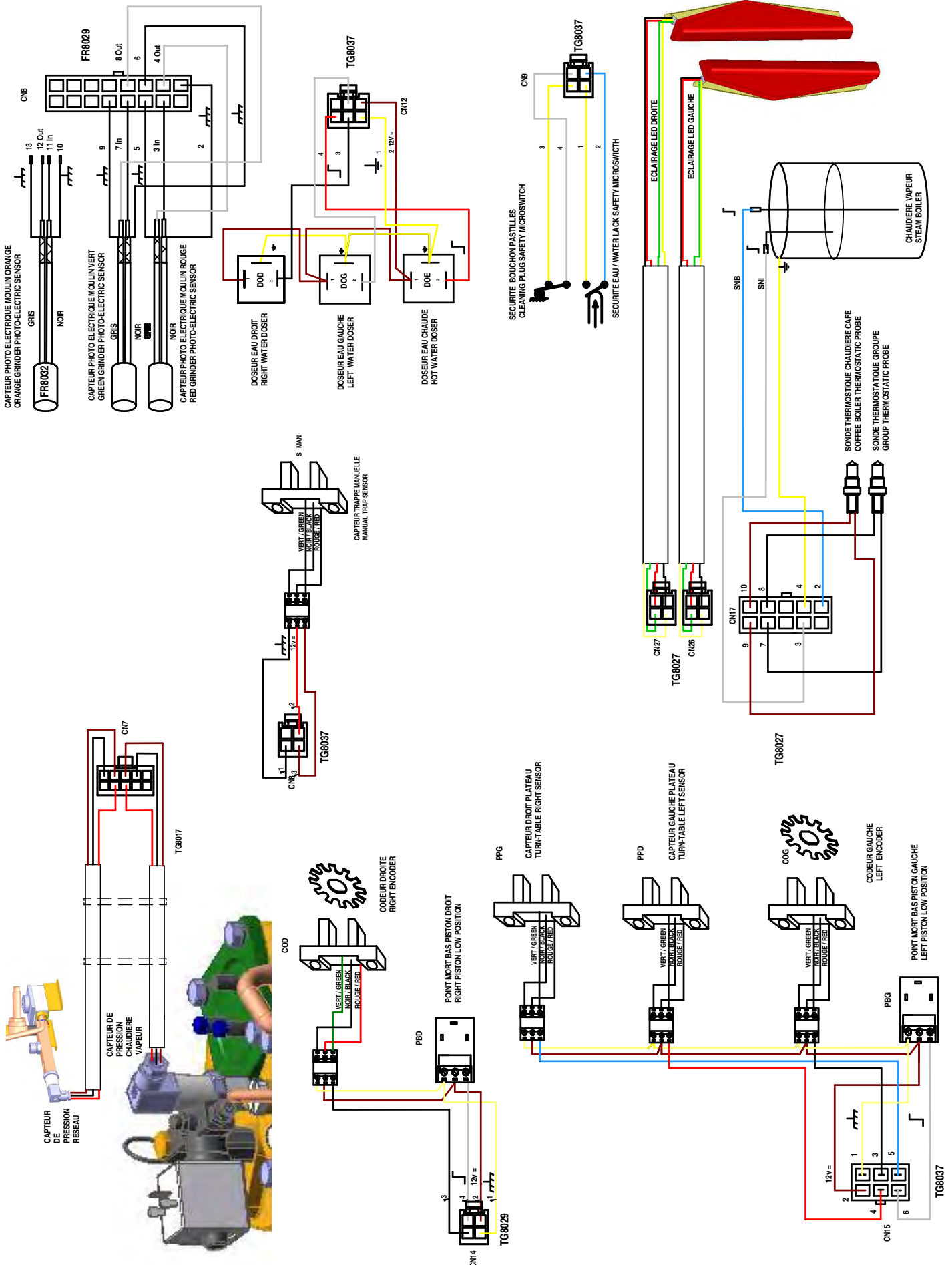


TANGO DUO ST SCHEMA DE CABLAGE DE PRINCIPE 400V tri 26/02/2019

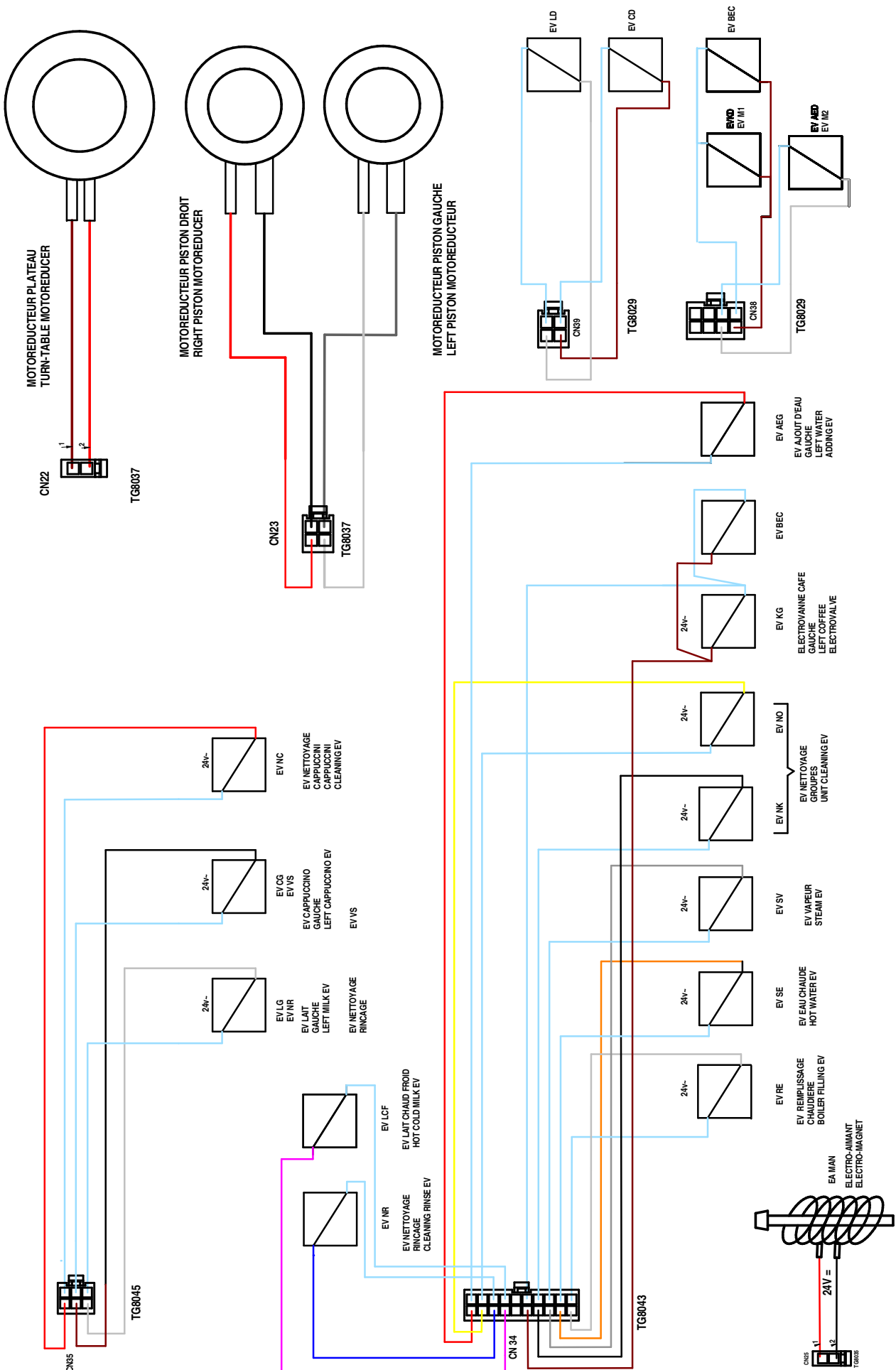
BRANCHEMENT BORNIER / TERMINAL CONNECTING



◆ Electric wirings 5/12V



◆ Electric wiring 24V



► TFT screen replacement

Example with a grille of the Tango Solo ST

Tools:
-Phillips screwdriver
-Flat-blade screwdriver

Remove the glass cover of the cup heater and unscrew the 2 screws at the front.



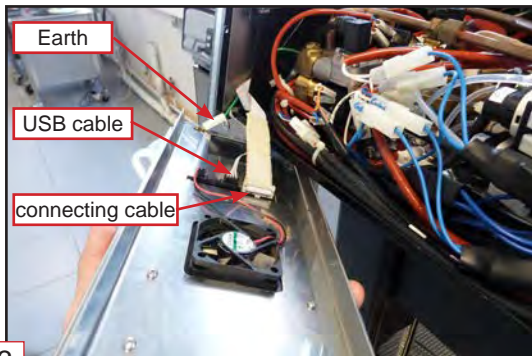
1

Unscrew the 2 screws underneath, while holding the grille so that it does not fall.



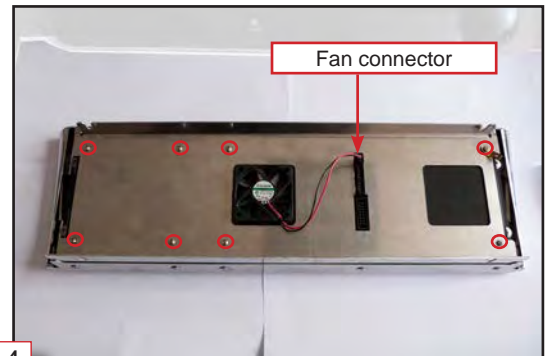
2

Remove the grille and disconnect the 3 connectors.



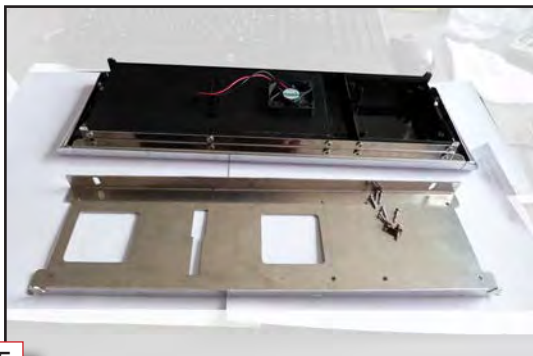
3

Unscrew the 8 screws and disconnect the fan connector.



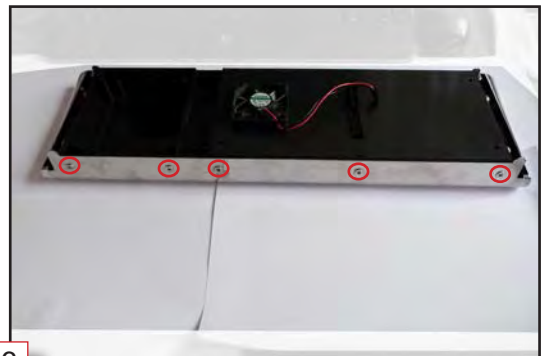
4

Remove the support plate from the grille.



5

Unscrew the 5 screws from the underneath.



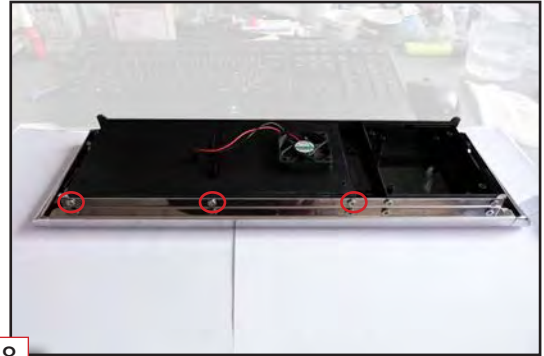
6

Remove the underneath of the grille.



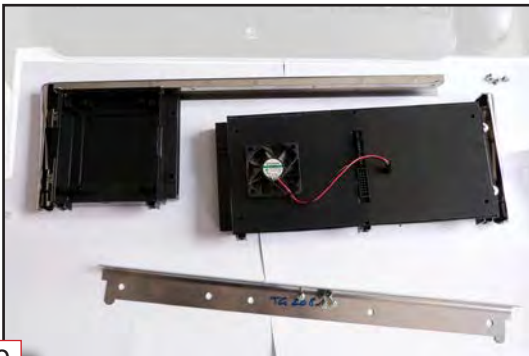
7

Unscrew the 3 screws from the top of the grille



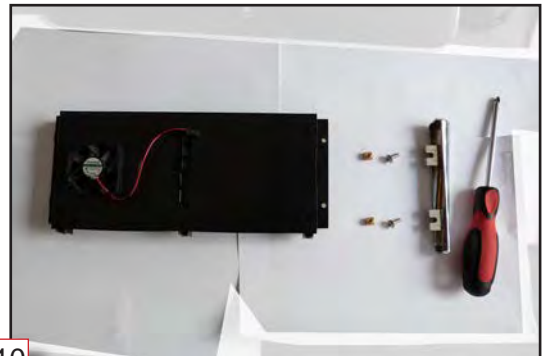
8

Detach the screen.



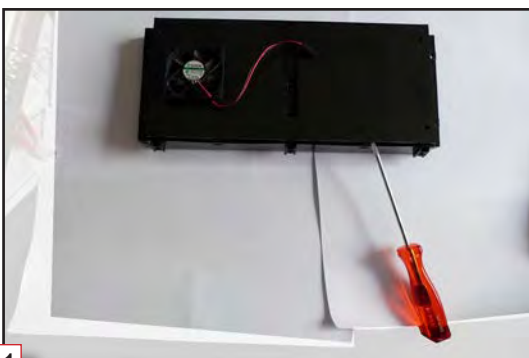
9

Unscrew the 2 Phillips screws and then remove the ear and recover the screws and the brass pins.

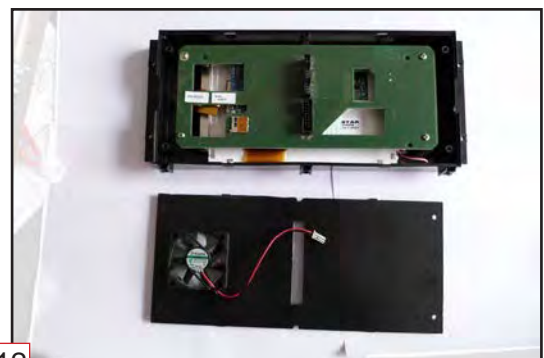


10

Remove the rear cover using a screwdriver in the notches.



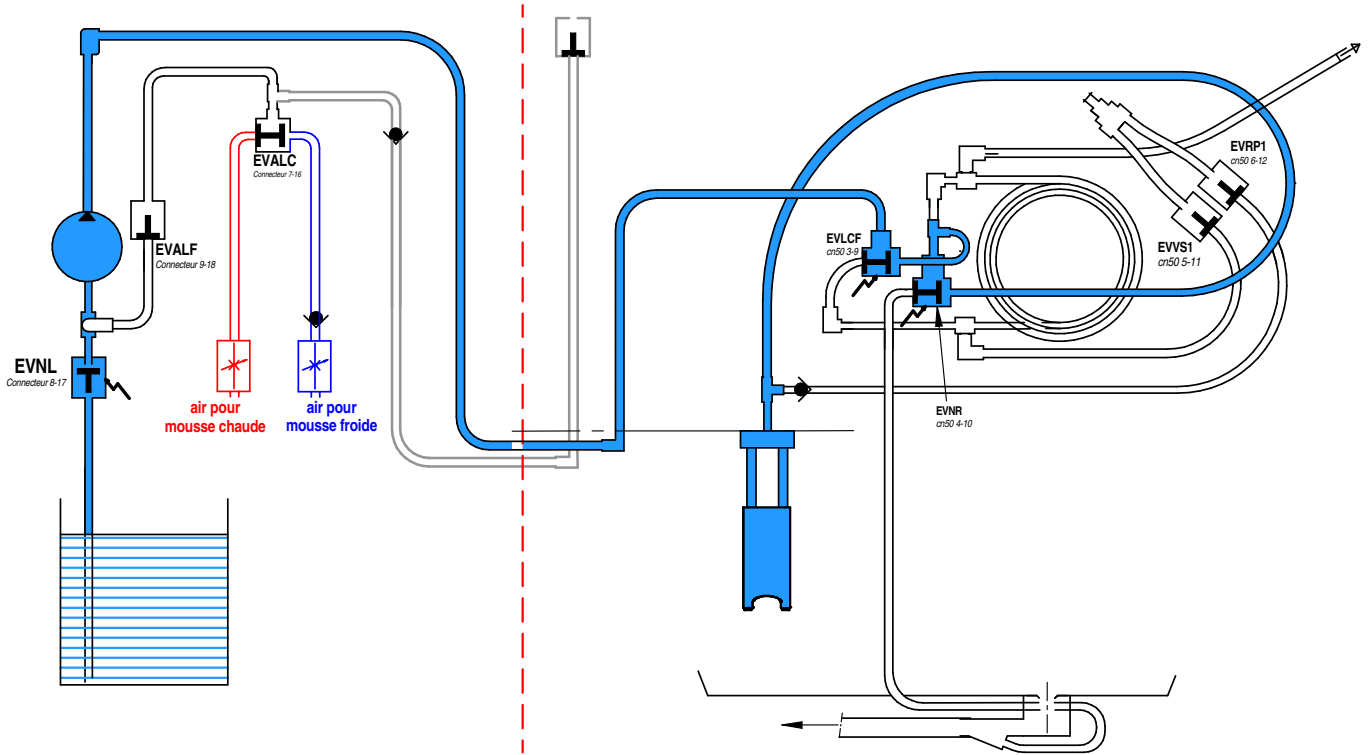
11



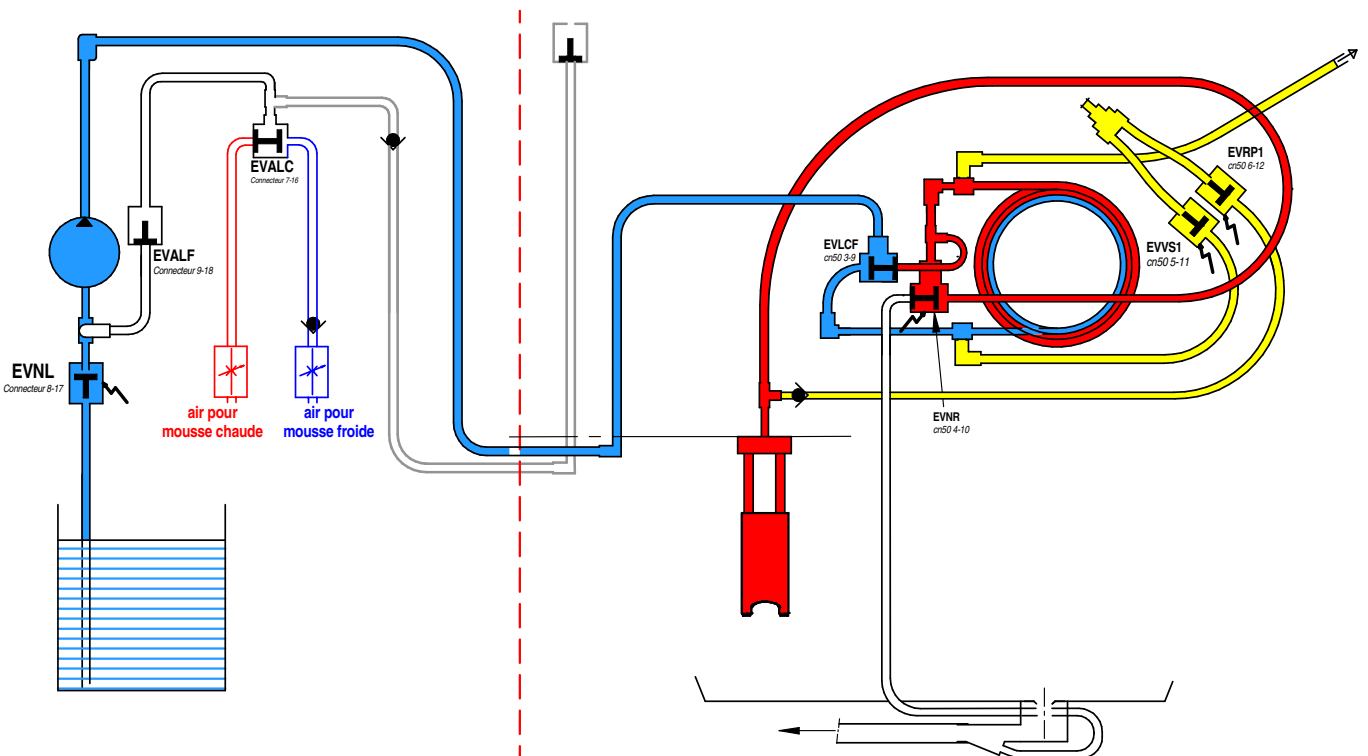
12

Installing the new screen:
 Replace the cover with the fan on the new screen, then proceed to assemble by repeating all previous operations in the reverse order.

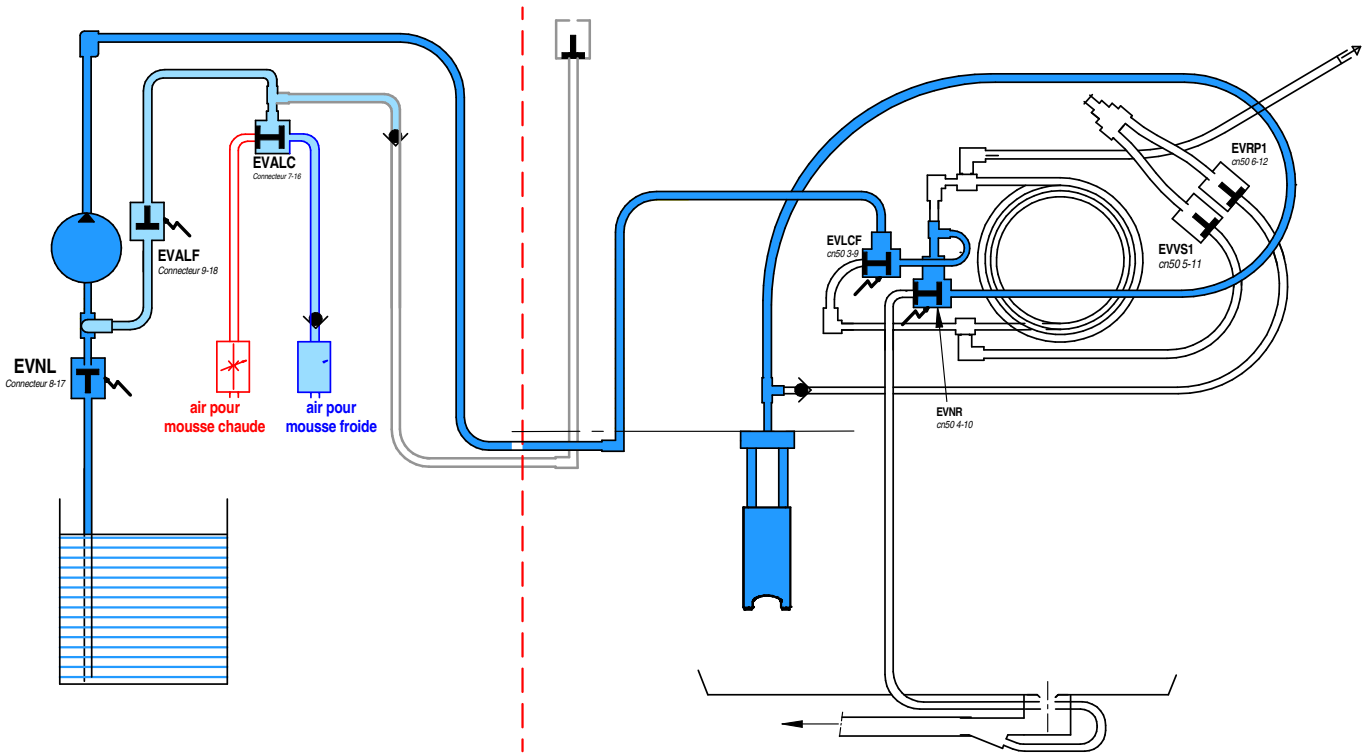
► Milk / foam system



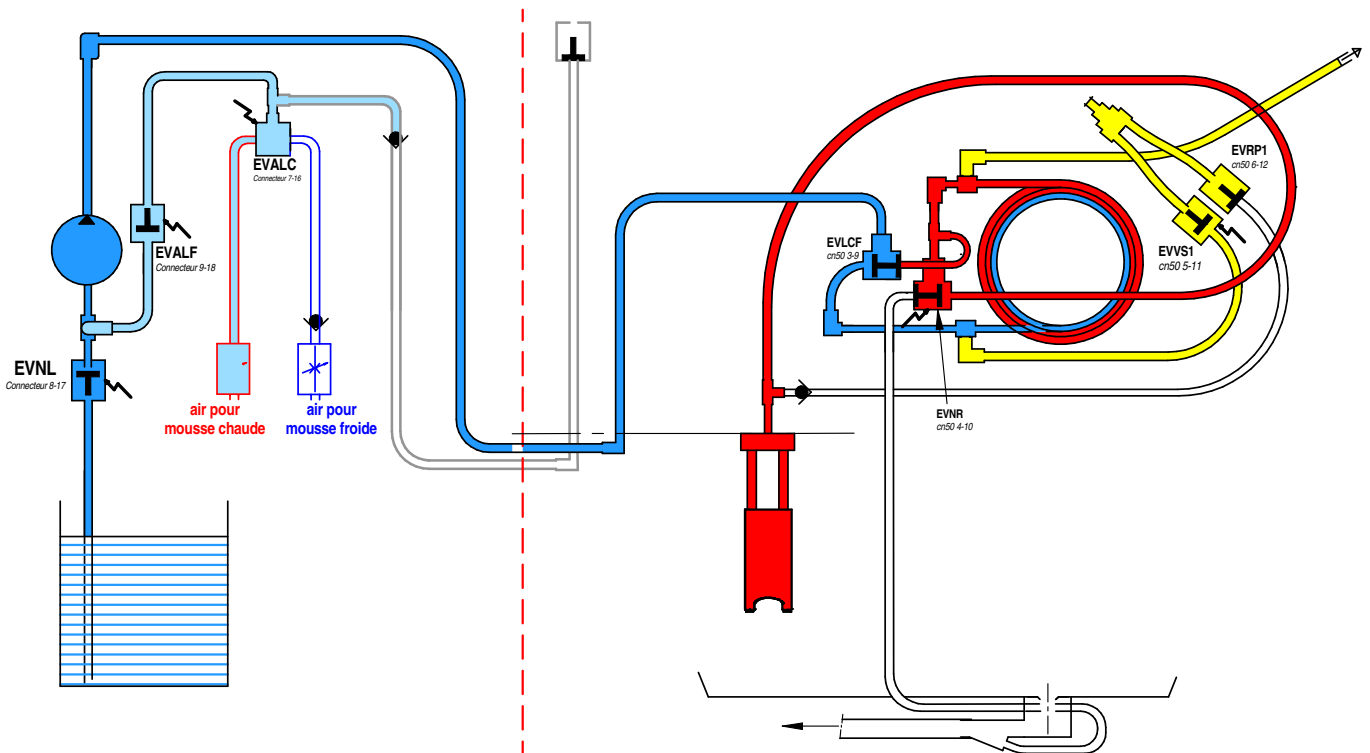
COLD MILK CIRCUIT



HOT MILK CIRCUIT

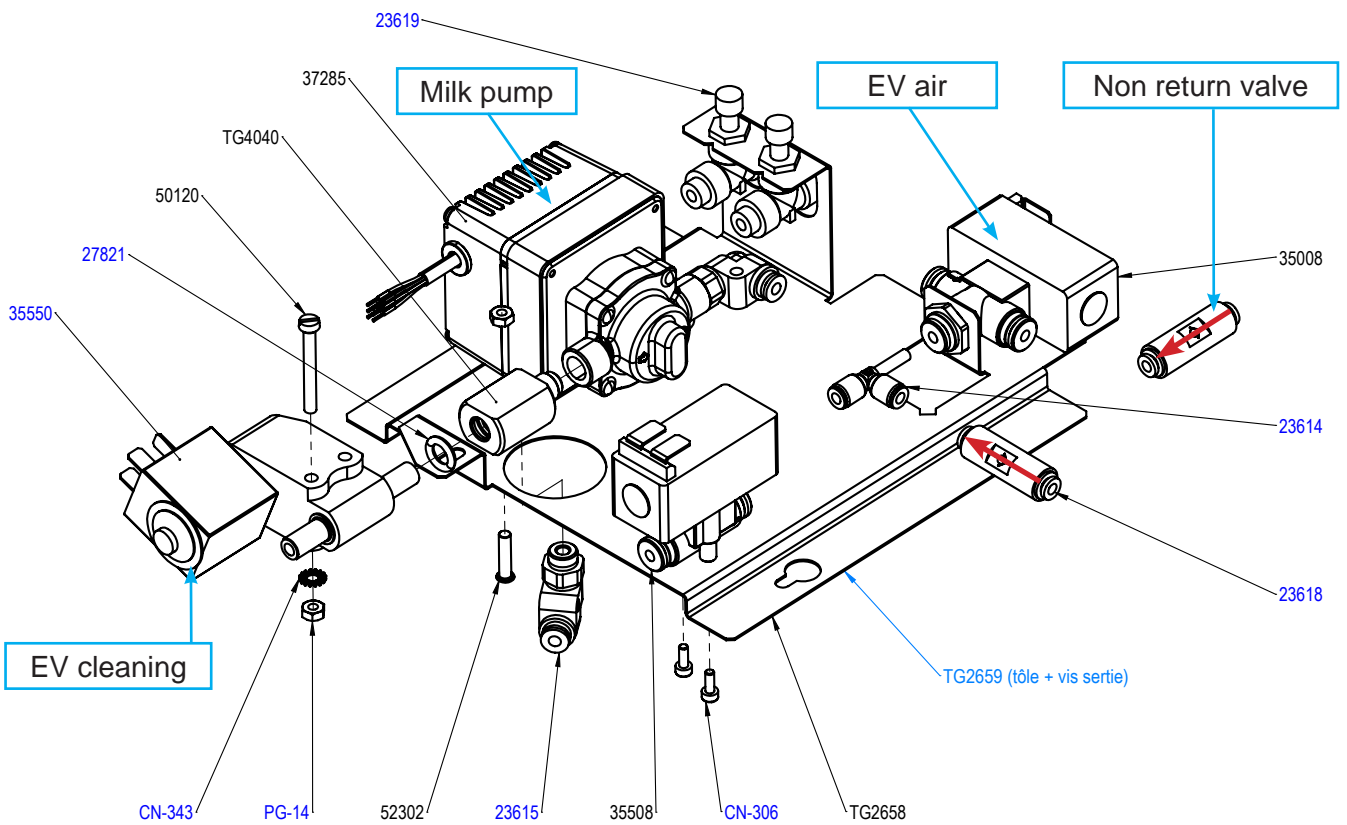
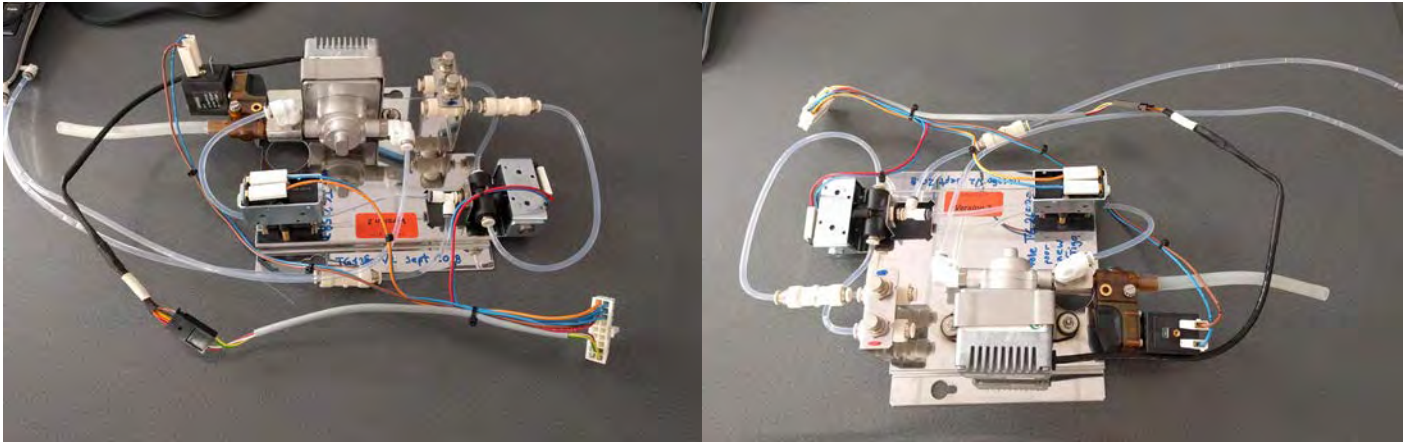


COLD FOAM CIRCUIT



HOT FOAM CIRCUIT

◆ Subassembly TG1360



◆ Removing the TG1360 sub-assembly

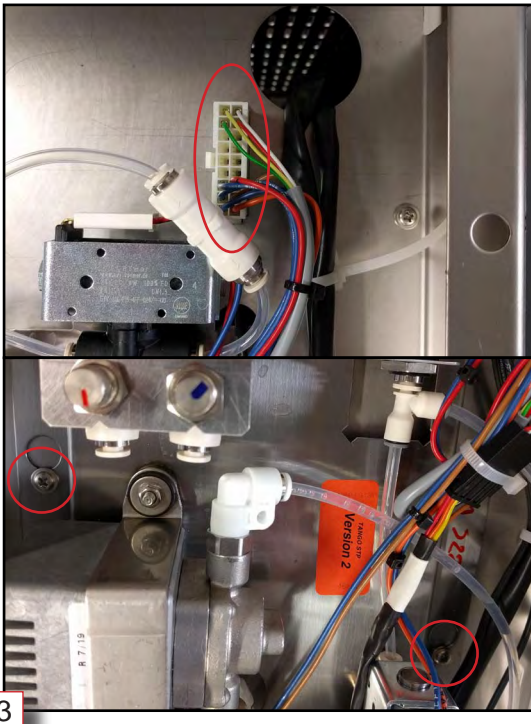
Remove the cup heater grille, then unscrew the 4 screws from the cup heater



Module without cup heater unit.



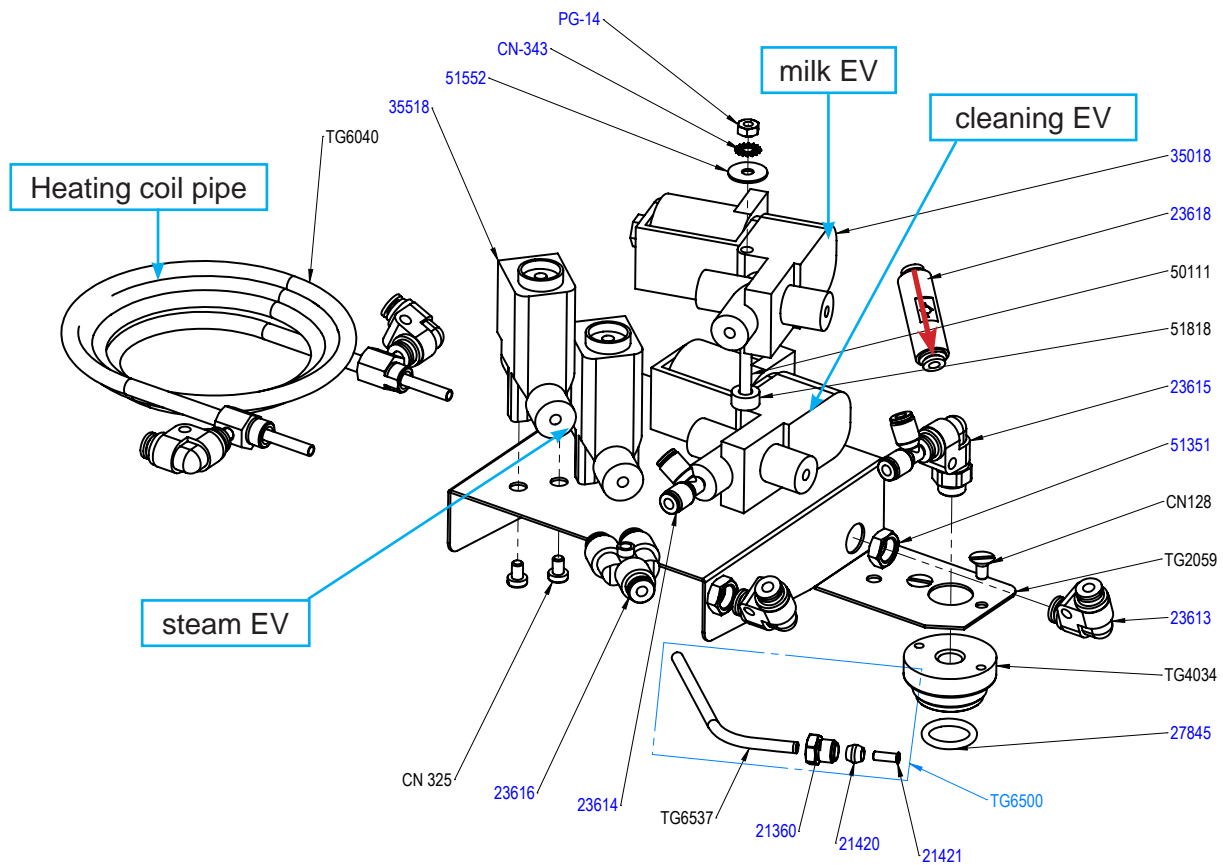
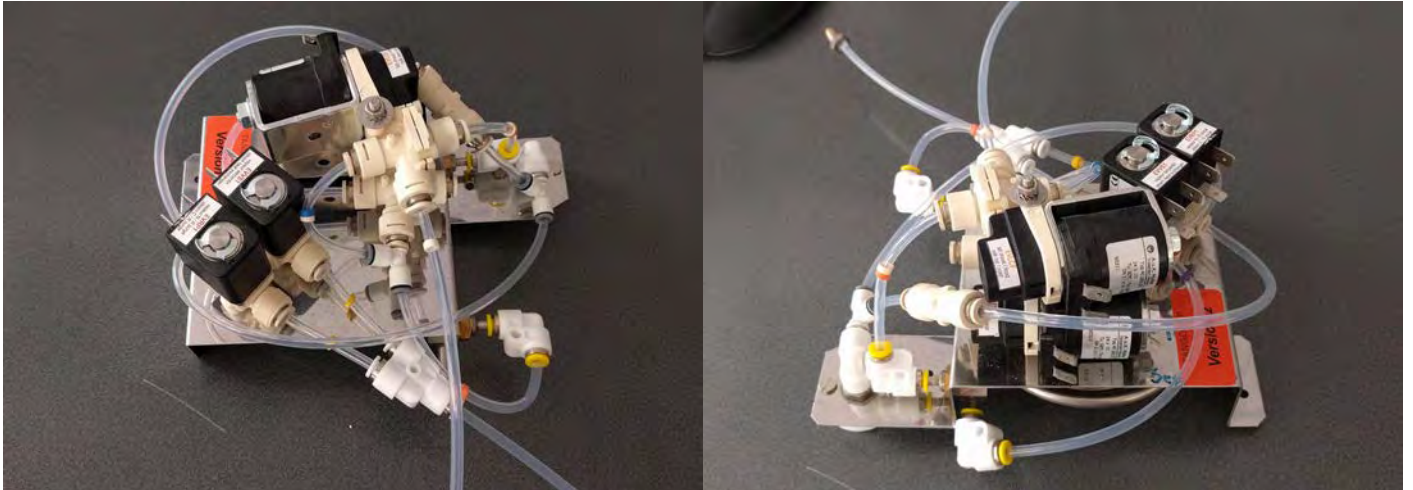
Disconnect the main connector on the back.
Unscrew (not fully) the two screws; then simply slide the unit forwards to extract the ST module.



Module without the TG1360 unit.



◆ Subassembly TG1361



◆ Removing the TG1361 sub-assembly

Note: Perform this operation after having removed the grille from the machine (see «Replacement of the TFT screen» part, p:71).



Unscrew the milk outlet on the nozzle.



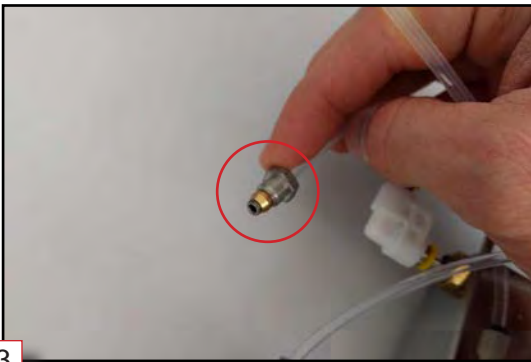
1

Unscrew the coffee grounds drawer stop, which also serves to hold it (tool: 3mm Allen key)



2

Disconnect the boiler steam tube with key 10mm



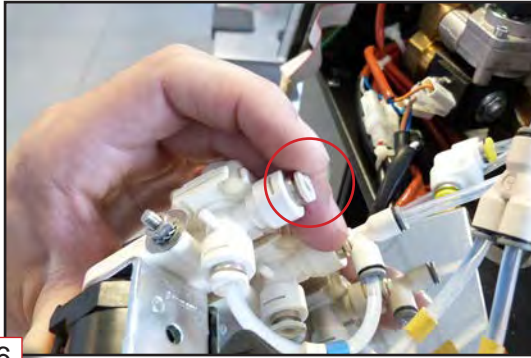
3

Disconnect the outlet tube from the EVNR (3-way solenoid valve)



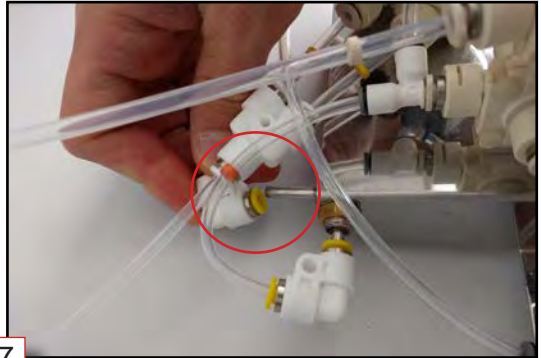
4

Disconnect the milk tube from the EVLCF



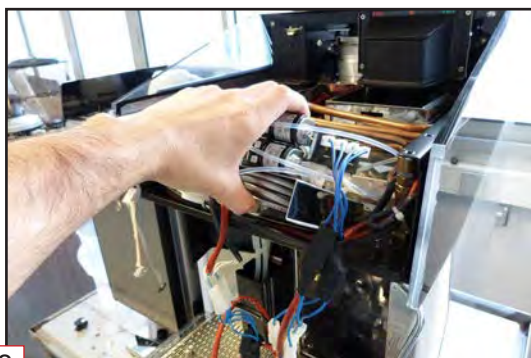
6

Disconnect the steam bleeder tube from the coil.



7

Disconnect the connectors from the 4 solenoid valves, then take out the unit.



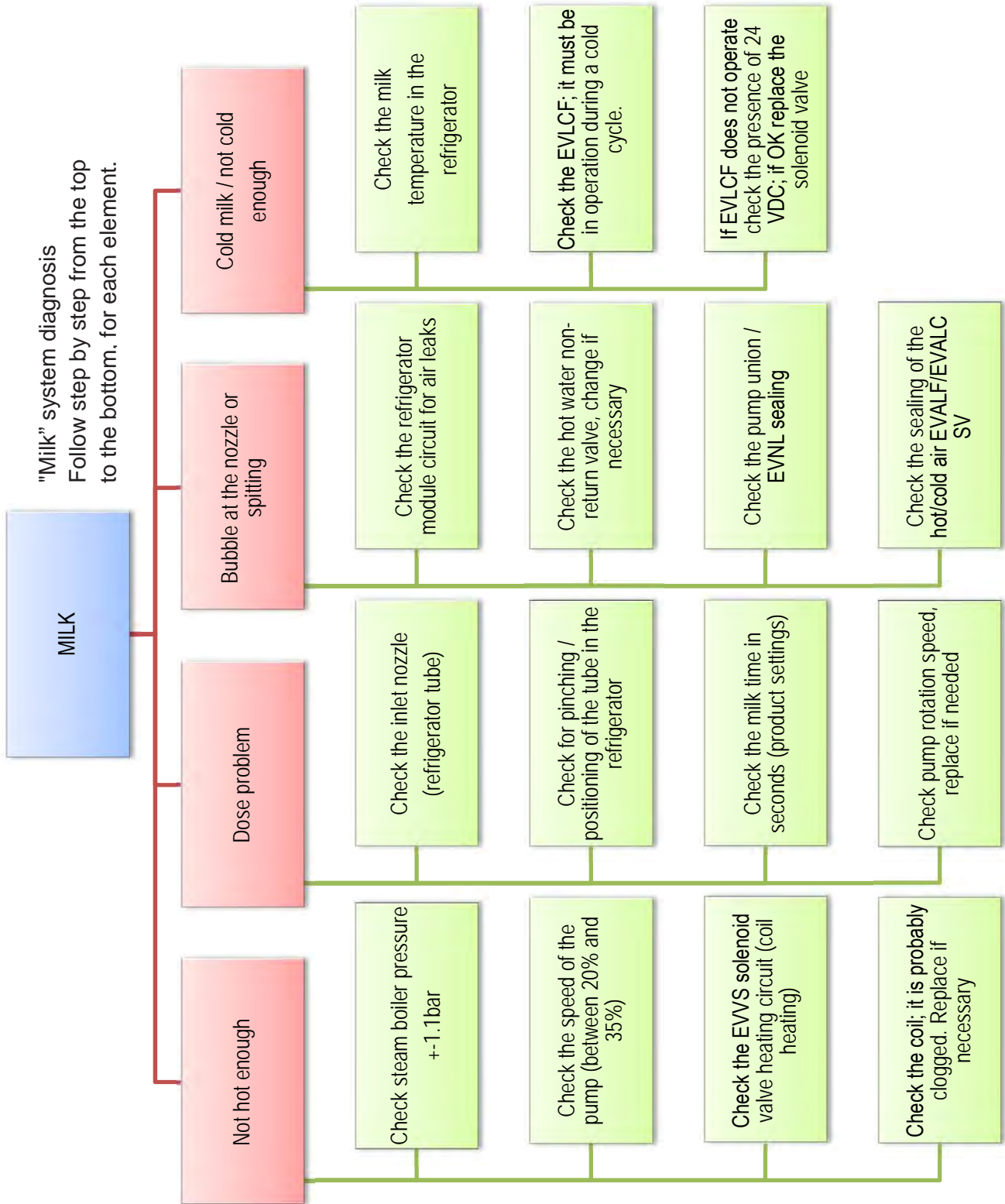
8

Machine without the TG1361 unit.

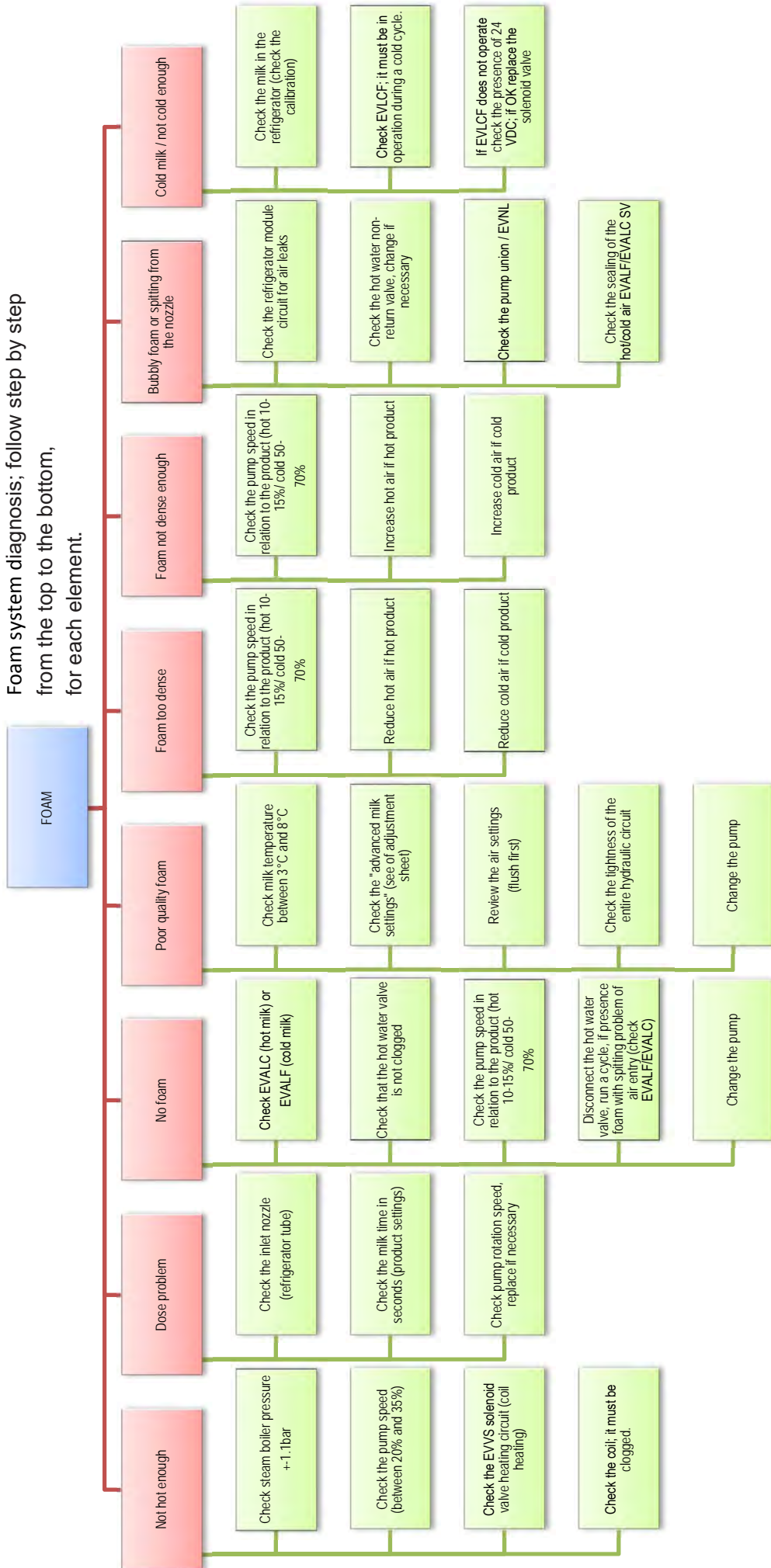


9

◆ Troubleshooting



Foam system diagnosis; follow step by step from the top to the bottom, for each element.



◆ Emergency list

PIECES DETACHEES DE 1ERE URGENGE SPECIFIQUES AUX TANGO STP

REF	DESIGNATION	DESIGNATION	QTE
12740	TUBE SILICONE 5 X 9	SILICONE PIPE 5 X 9	1m
12734	TUBE PTFE DIA:4	PIPE PTFE DIA:4	3m
23610	RACCORD RAPIDE DROIT PASSE CLOISON	QUICK FITTING BULKHEAD	2
23611	EQUERRE RACCORD RAPIDE PASSE CLOISON	BULKHEAD CONNECTOR	2
23613	RACCORD RAPIDE COUDE 2V D:4 F-F	ELBOW QUICK FITTING 2W D:4 F-F	2
23615	RACCORD RAPIDE COUDE D:4 F-1/8G	ELBOW QUICK FITTING D:4 F-1/8G	4
23616	RACCORD RAPIDE Y D:4 F-F-F	QUICK FITTING Y D:4 F-F-F	2
23618	CLAPET ANTI-RETOUR D:4 F-F	NON RETURN VALVE D:4 F-F	6
23619	REGLAGE AIR MICROMETRIQUE C/F D:4 F-F	SETTING AIR HOT/COLD D:4 F-F	1
26124	GOUPILLON NETTOYAGE	CLEANING BRUSH	1
26153	REDUCTEUR CAPPUCINATORE D2.5	CAPPUCINATORE REDUCER D2.5	3
27821	JOINT TORIQUE 1.78 X 12.42	O-RING 1.78 X 12.42	4
35018	ELECTROVANNE 3V D4F 24V-DC	ELECTROVALVE 3W 24V-DC D4F	1
35518	ELECTROVANNE 2V D4F 24V-DC	ELECTROVALVE 2W 24V-DC D4F	1
37285	MOTEUR POMPE 24V AVEC CABLE	PUMP MOTOR 24V	1
37286	ENSEMBLE FIXATION POUR POMPE 24V	FIXING SET FOR 24V PUMP	1
92027	DETERGENT LIQUID ACID - LAIT 1000 ML	LIQUID DETERGENT ACID - MILK 1000ML	1
TG6040	TUBE SERPENTIN VAPEUR INOX	HEATING COIL PIPE FOR STEAM	1
ref RS: 722198	COUPE TUBE	PIPE CUTTING	1
44321	VENTILATEUR CABLE AVEC CONNECTEUR	FAN WITH WIRE	1
45148	BOITIER BTX TANGO ST	BTX ELECTRONIC BOX TANGO ST	2
45381	CARTE CPU	CPU CARD	1
45382	CARTE DRIVER EV	ELECTROVALVE DRIVER CARD	1
45384	CARTE MODULE 2EME PISTON	MODULE CARD 2ND PISTON	1