



EN660



DeLonghi

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1. ACCESSIBILITY



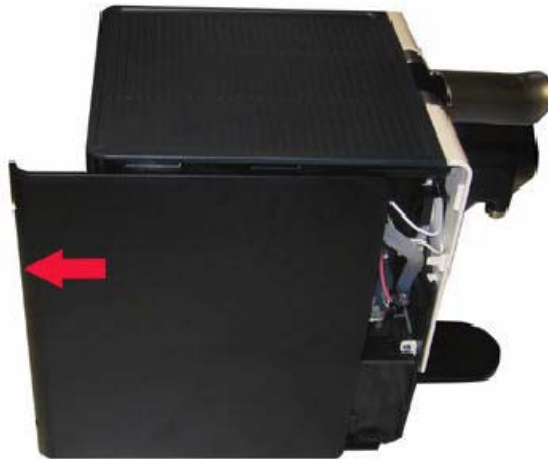
1.1 To remove side panel

1



Unscrew the 4 indicated screws (T20) Torx

2



Remove with attention the panel



4

1.2 To remove back panel

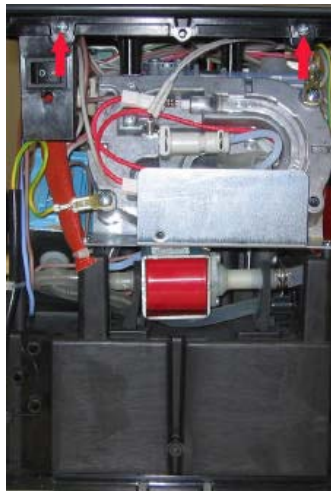


To remove the back of the appliance, unscrew the 2 indicated screws (T20)Torx.



1.3 To remove upper panel:

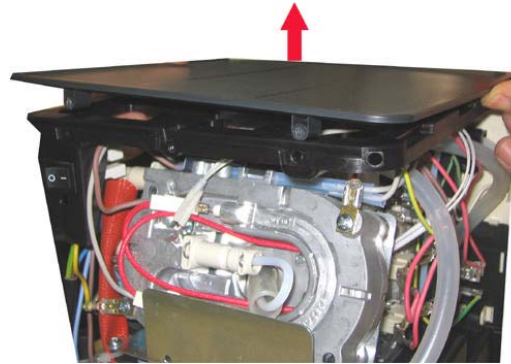
1



**Unscrew the 2
Indicated screws**



2



**Lift with attention the
upper panel**

6

3



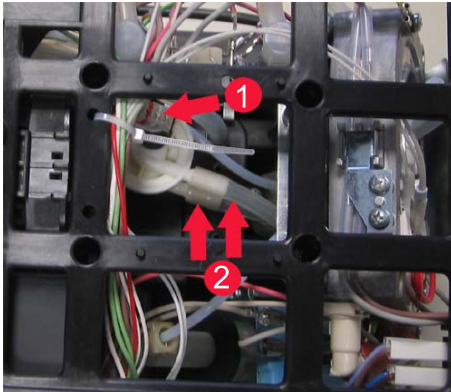
Take off the panel, pushing it to the back. Pay attention to the 3 indicated hooks



7

1.4 To replace Flowmeter

1



1. Take off the cable
2. Take off the 2 tubes

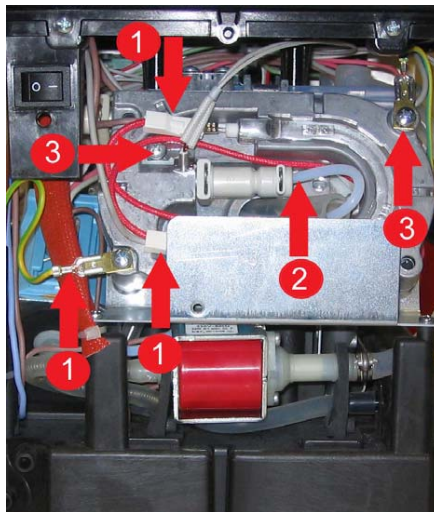
2



Take off the metal ring placed under the pot container. Now it is possible to remove the Flowmeter



1.5 To remove the Thermoblock

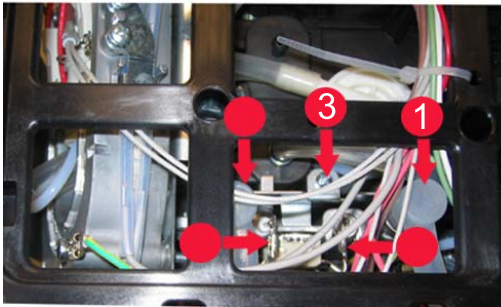


1. Take off cables
2. Take off tubes
3. Unscrew the 2 screws and and the nuts. Now it is possible to remove the complete thermoblock.



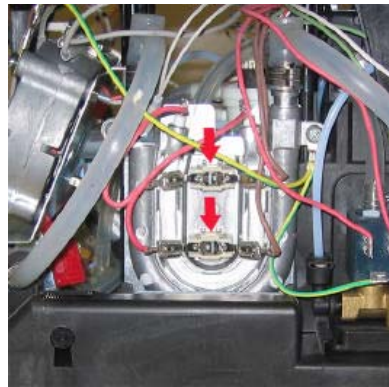
1.6 To remove the steamer:

1



- 1. Take off tubes**
- 2. Take off cables**
- 3. Unscrew the fixing screw**

2

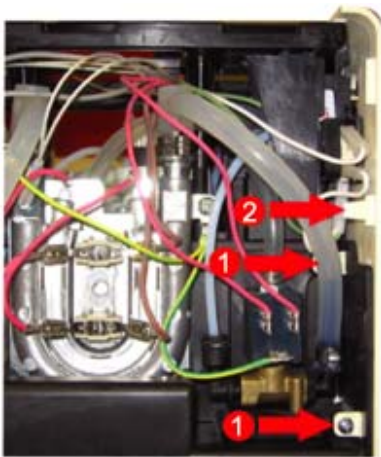


Take off the 2 Thermal Cut Off
Now it is possible to remove the steamer



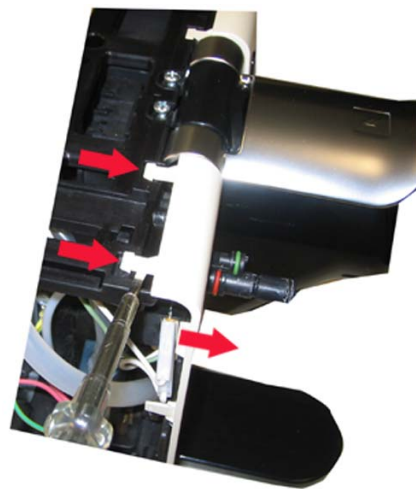
1.7 To remove the Electrovalve:

1



- 1. Unscrew the 2 indicated screws**
- 2. Unhook the front panel**

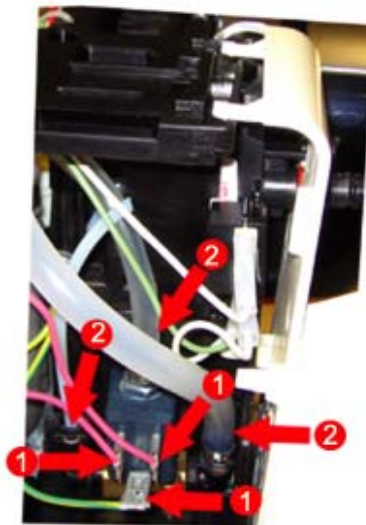
2



- Using a screwdriver, unhook the upper part of the front panel**



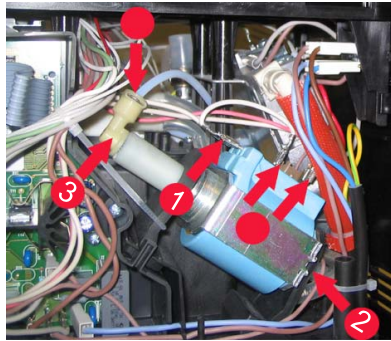
3



1. Take off cables
2. Take off tubes
3. Now it is possible to remove the Electrovalve



1.8 To remove Coffee Pump



1. Take off cables
2. Take off the tubes
3. Take off the connector

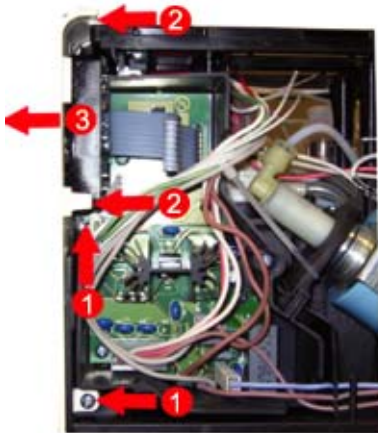
Now, it is possible to remove the Coffee Pump

Check cable connection! If the cables are reversed, it is not possible to generate any steam.



1.9 To remove Electronic Board:

1



1. Unscrew the 2 screws
2. Unhook the side of the front panel
3. Remove the panel

2



1. Unscrew the 3 indicated screws.
2. Take off cables
Now it is possible to remove the electronic board.



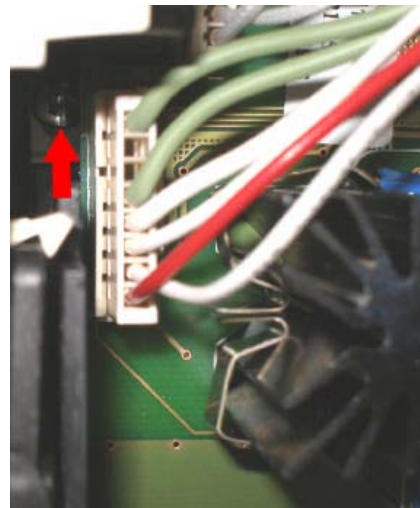
1.10 To remove MBU:

1



1. Unscrew the 2 screws

2



1. Take off cables

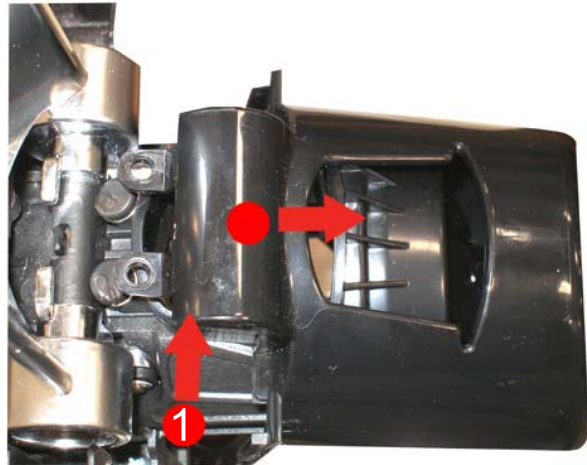


3



1. Unscrew the screws you find on both sides of MBU

4



1. Lift the lever
2. Lift and take off the cover

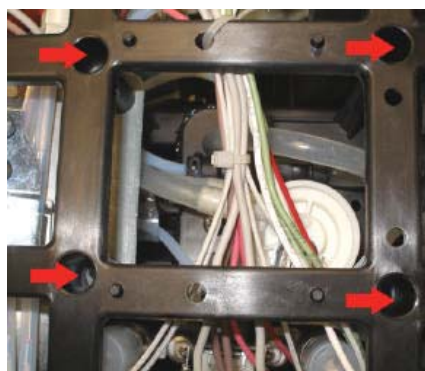


5



1. Remove the 2 small covers

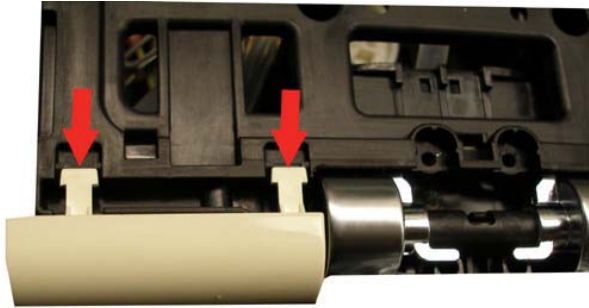
6



1. Unscrew the 4 indicated screws

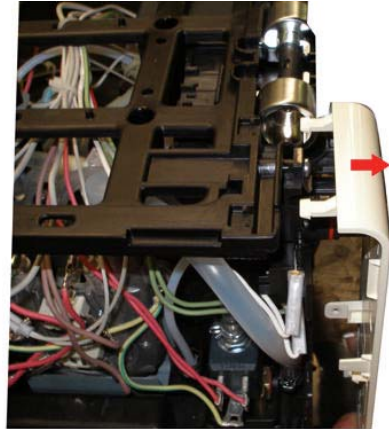


7



1. Unhook the upper panel

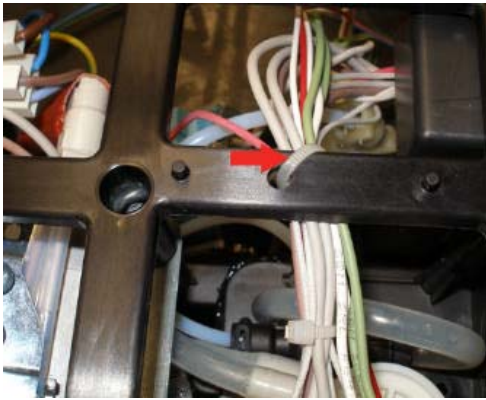
8



1. Remove the panel

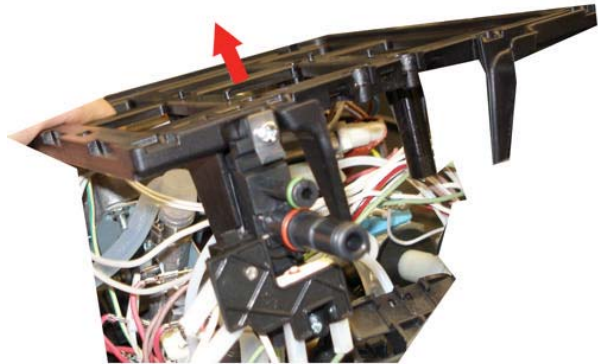


9



1. Cut the band

10

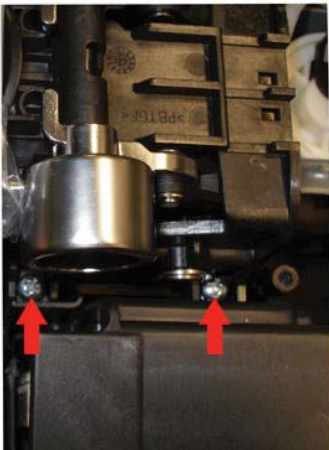


1. Remove the cover



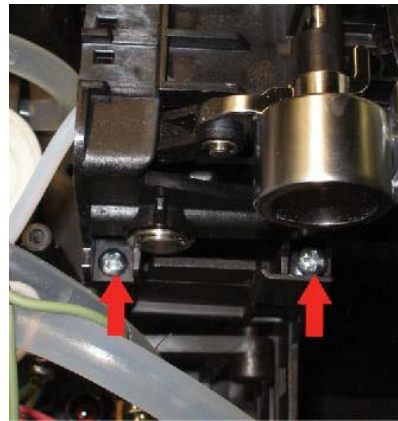
19

11



1. Unscrew the 2 screws you find on the right side

12



1. Unscrew the 2 screws you find on the left side

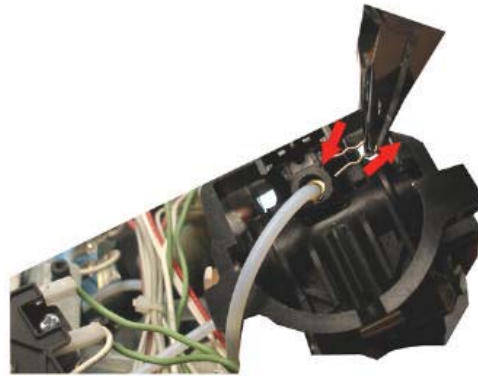


13



1. Take out the spring and then take off the tube you find on the left side of electrovalve

14



1. Take out the spring and then take off the tube you find on the rear of MBU



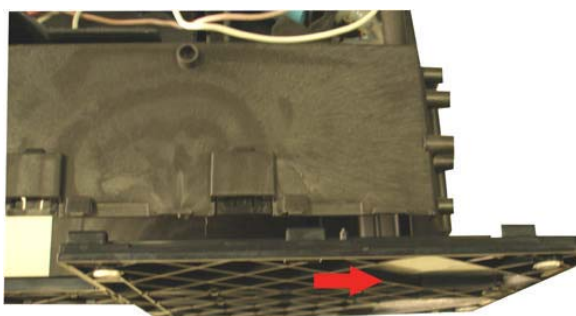
1.11 To remove the bottom:

1



1. Unscrew the indicated screw

2



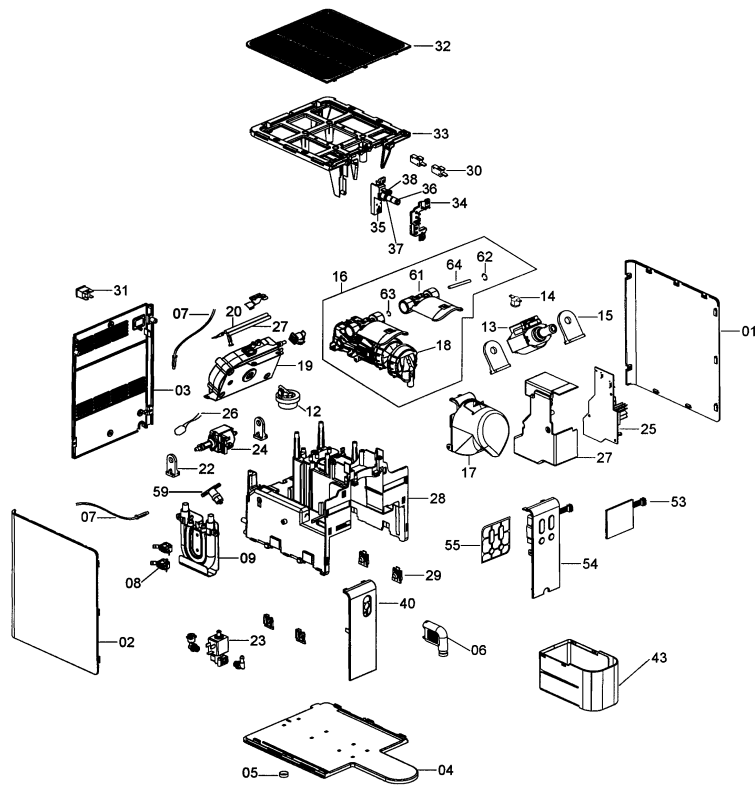
1. Push the Bottom towards the back of the appliance (see arrow).

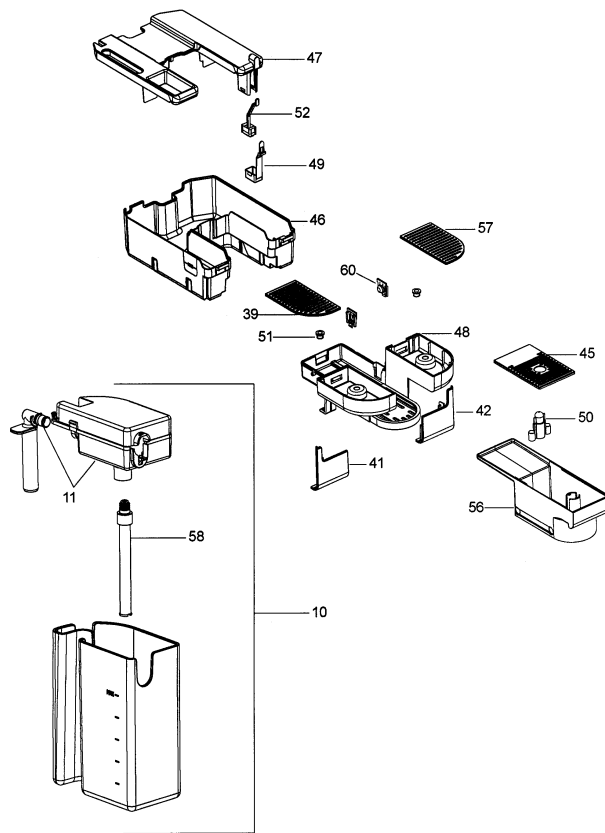


2. EXPLODED VIEW



2.1 Exploded view:





Pos.	Part Number	Italiano	English	Français	Deutsch	Espanol
01	5332242900	FIANCO DX	SIDE RIGHT	COTE DROITE	SEITE RECHTS	LADO DERECHA
02	5332243000	FIANCO SX	SIDE LEFT	COTE GAUCHE	SEITE LINKS	LADO IZQUIERDO
03	5332243100	SCHIENALE	REAR PANEL	PANNEAU ARRIERE	RÜCKWAND	RESPALDO
04	5532144500	FONDO	BOTTOM	FOND	BODEN	FONDO
05	532233	GOMMINO	RUBBER PAD	PARE CHOCS	PUFFER	GUARNICION
06	5532150200	USCITA ACQUA	WATER OUTLET	SORTIE EAU	WASSERAUSFLUSS	SALIDA AGUA
07	5217100200	SENSORE NTC	SENSOR NTC	SENSEUR NTC	SENSOR NTC	SENSORE NTC
08	5232105000	TCO	TCO	SecuriteDeSurchauf.	Übertemperatursicherung	Fusibile Termico
09	7332215200	ASS. RESISTENZA	HEATING Element ASSY	ELEMENT Chauffant	HEIZELEMENT	RESISTENCIA
10	7332215400	CARAFFA	CARAFE	CARAFE	KARAFFE	GARRAFA
11	7332215300	COPERCHIO	COVER	COUVERCLE	DECKEL	TAPA
12	5232107200	MISURATORE ACQUA	WATER VOLUME METER	DEBITMETRE EAU	WASSER DURCHFLUSSMESSER	MEDIDOR DE AGUA
13	5132110800	POMPA	PUMP	POMPE	PUMPE	BOMBA
14	5232102600	TERMOSTATO 125°	THERMOSTAT 125°	THERMOSTAT 125°	THERMOSTAT 125°	TERMOSTATO 125°
15	534848	SUPPORTO	SUPPORT	SUPPORT	HALTER	SOPORTE
16	7332214900	INFUSORE	INFUSOR	INFUSEUR	BRUHEINHEIT	INFUSOR
17	5332243700	USCITA CAFFE	COFFEE OUTLET	SORTIE CAFE	KAFFEEAUSFLUSS	SALIDA CAFE
18	5332245500	MBU USCITA	MBU OUTLET	MBU SORTIE	MBU AUSGANG	MBU SALIDA
19	7332215000	GENERATORE	GENERATOR	GENERATEUR	GENERATOR	GENERADOR
20	5032528700	CABLAGGIO	WIRING	CABLAGE	VERDRAHTUNG	CABLEO
21	5032528800	CABLAGGIO	WIRING	CABLAGE	VERDRAHTUNG	CABLEO
22	5332248200	SUPPORTO	SUPPORT	SUPPORT	HALTER	SOPORTE
23	5232117100	ELETTROVALVOLA	SOLENOID VALVE	Soupape Electrique	SOLENOIDVENTIL	Valvula Solenoide
24	5132110700	POMPA	PUMP	POMPE	PUMPE	BOMBA
25	5232114500	SCHEDA	BOARD	FICHE	PLATINE	FICHA



Pos.	Part Number	Italiano	English	Français	Deutsch	Espanol
26	5232118600	PROTETTORE	PROTECTOR	PROTECTEUR	ÜBERTEMP.SCHUTZ	PROTECTOR
27	5332243800	COPERCHIO	COVER	COUVERCLE	DECKEL	TAPA
28	5532150000	SCOCCA	BODY	CARROSSERIE	KASTEN	CARCASA
29	5332245100	MOLLA	SPRING	RESSORT	FEDER	MUELLE
30	5132110500	MICROINTERRUTTORE	MICROSWITCH	MICRORUPTEUR	MIKROSCHALTER	MICROINTERRUPTOR
31	5132112500	INTERRUTTORE	SWITCH	INTERRUPTEUR	SCHALTER	INTERRUPTOR
32	5332243200	POGGIATAZZE	CUP PLATE	PORTE TASSES	TASSEN AUFLAGE	PORTATAZAS
33	5332243300	COPERCHIO	COVER	COUVERCLE	DECKEL	TAPA
34	5332245600	SUPPORTO	SUPPORT	SUPPORT	HALTER	SOPORTE
35	5332270000	INNESTO	COUPLING	RACCORD	VERBINDUNGSSTUECK	ACOPLAMIENTO
36	5332177600	O-RING	O-RING	JOINT OR	O-RING	O-RING
37	5332177500	O-RING	O-RING	JOINT OR	O-RING	O-RING
38	5332196000	O-RING	O-RING	JOINT OR	O-RING	O-RING
39	5332242200	GRIGLIA SX	GRID LEFT	GRILLE GAUCHE	GITTER LINKS	PARRILLA Izquierda
40	5332243400	PANNELLO	PANEL	PANNEAU	PLATTE	TABLERO
41	5332244000	PANNELLO	PANEL	PANNEAU	PLATTE	TABLERO
42	5332244100	PANNELLO	PANEL	PANNEAU	PLATTE	TABLERO
43	5332249700	CONTENITORE DI CAPSULE	CAPSULES CONTAINER	RESERVOIR A CAPSULES	KAPSELBEHAELTER	CONTENEDOR DE CAPSULAS
45	6032115500	GRIGLIA RACCOGLIGOCCE	DRIP TRAY GRID	GRILLE DE EGOUTTAGE	ABSTELLGITTER	REJILLA DE GOTEO
46	7332214800	SERBATOIO	TANK	RESERVOIR	TANK	DEPOSITO
47	5332242000	COPERCHIO	COVER	COUVERCLE	DECKEL	TAPA
48	5332242800	VASCHETTA	TRAY	CUVETTE	BEHALTER	CUBETA



Pos.	Part Number	Italiano	English	Français	Deutsch	Espanol
49	5332245000	COPERCHIO	COVER	COUVERCLE	DECKEL	TAPA
50	5332245400	GALLEGGIANTE	FLOAT	FLOTTEUR	SCHWIMMER	FLOTADOR
51	5332259400	GOMMINO	RUBBER PAD	PARE CHOCS	PUFFER	GUARNICION
52	5532141100	GALLEGGIANTE	FLOAT	FLOTTEUR	SCHWIMMER	FLOTADOR
53	5532150900	SCATOLA COMANDI	CONTROL BOX	BOITE DE CONTROLE	SCHALTKASTEN	CAJA DE MANDOS
54	5932125400	PANNELLO	PANEL	PANNEAU	PLATTE	TABLERO
55	5932125600	TASTO	PUSH BUTTON	POUSSOIR	TASTE	TECLA
56	5332244600	VASCA RACCOGLIGOCCE	DRIP TRAY	BAC DE EGOUTTAGE	ABTROPFSCHALE	BANDEJA DE GOTEO
57	5332242100	GRIGLIA DX	GRID RIGHT	GRILLE DROITE	GITTER RECHTS	PARRILLA Derecha
58	5332259500	TUBO	TUBE	TUBE	ROHR	TUBO
59	5532153900	VALVOLA	VALVE	SOUPAPE	VENTIL	VALVULA
60	5332245100	MOLLA	SPRING	RESSORT	FEDER	MUELLE
61	7032112200	MBU LEVA	MBU LEVER	MBU LEVIER	MBU HEBEL	MBU PALANCA
62	9824500007	CLIP	CLIP	CLIP	BEFESTIGUNGSSTIFT	CLIP
63	9824500004	CLIP	CLIP	CLIP	BEFESTIGUNGSSTIFT	CLIP
64	6132110400	PERNO	PIN	PIVOT	STIFT	PERNO



3. TECHNICAL DATA SHEET



3.1 Technical data:

- MBU: Manual capsule insertion and ejection (**Mini Brewing Unit**)
- Programmable cup volume memory (Espresso/Coffee)
- Programmable cup volume memory (Macchiato/Cappuccino)
- Programmable cup volume (Hot water)
- Automatic priming
- Two Heaters: Coffee Thermoblock & Steamer (for Steam and Hot water)
- Two Pumps: One for Coffee & One for Steam / Hot water
- Specific Milk Frothing Device: Istant Froth Dispenser (IFD) with rinsing function
- Adjustment of the milk froth quantity
- Preparation time for a Cappuccino: ~45 seconds
- Sliding Drip Tray: 1 position for cup / 1 position for Macchiato Glass
- Capsule container for used capsules (12-15 capsules)
- Water level indicator (visual)



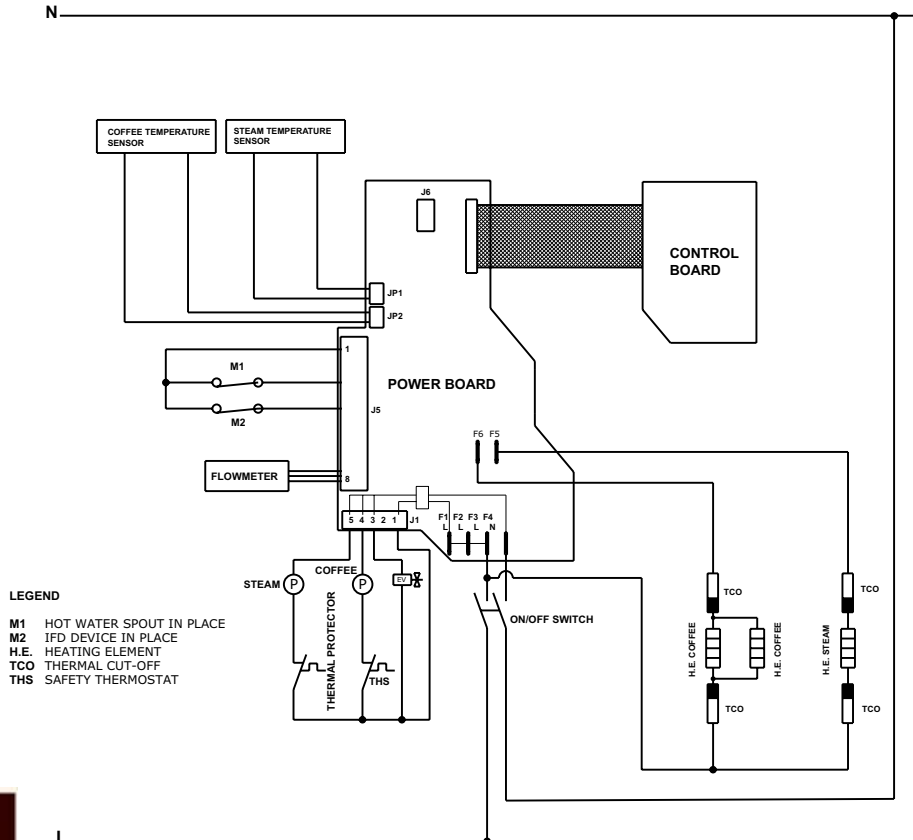
- Visual warning of the water level of the drip tray
- Removable Hot water outlet
- Spare mode after 1 hour: 50% energy reduction
- Standby mode after 4 hour: 99% energy reduction
- Semi-automatic descaling procedure
- Electronic temperature regulation
- Coffee Thermoblock: Aluminium body with Stainless steel tube
- Steamer: Aluminium body with Stainless steel tube
- Coffee Pump static pressure: 19 bars (Invensys / CP4SP)
- Steam/Hot water Pump (maximum pressure) : 3 bars
- Water tank capacity : 1,2 l
- Milk container capacity 0.5 l
- Total power consumption (Marketing value): 1300Watts
- Pre-heating time for coffee: ~55 sec
- Pre-heating time for milk recipes ~1min45



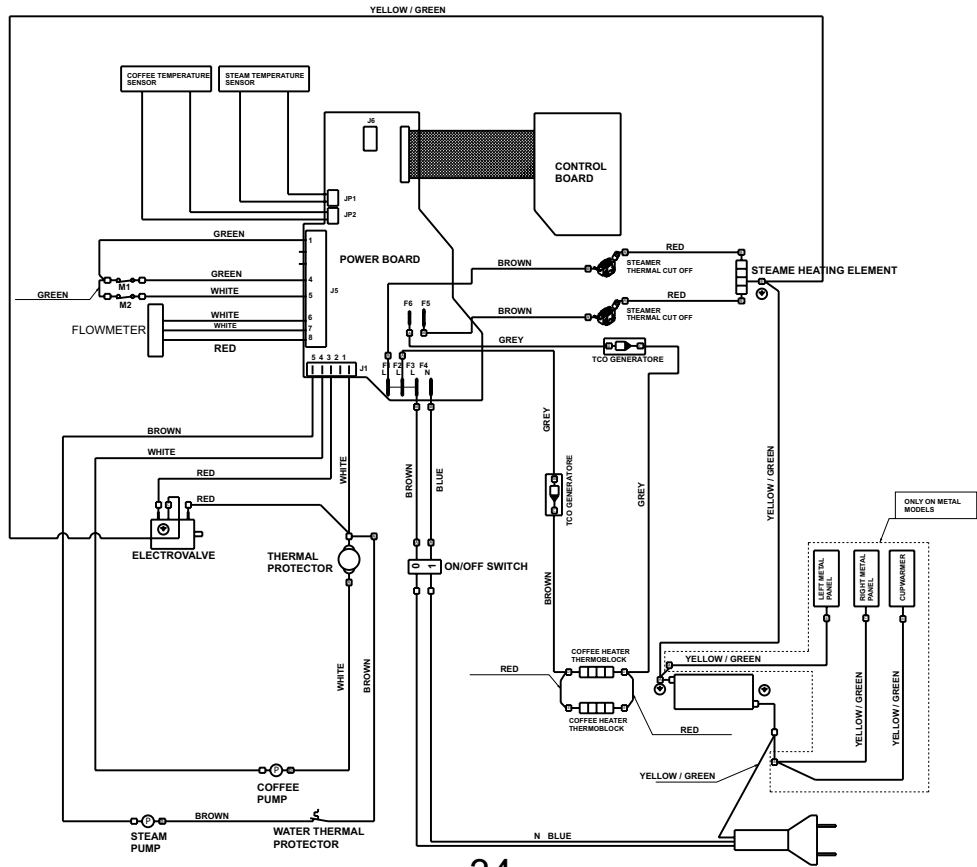
- Dimensions (w x d x h) [mm] 205 x 342 x 258
- Weight of machine model A: ~ 5.3 kg
- Weight of machine model B: ~ 6.8 kg
- Safety temperature Coffee Thermobloc (Thermal fuse) 192° C
- Safety temperature Steamer (Thermal fuse) 318° C
- Safety temperature Pump (Thermal fuse) 125° C
- Power consumption (version 230V)
 - Coffee Thermoblock 1'200 W
 - Steamer 1'000 W
 - Coffee Pump 70 W
 - Steam Pump 22 W
- Ratings (Version 230V)
 - Pre-heating: 18.0 Wh
 - 1 big cup of coffee (110ml) 9.0 Wh
 - 1 small cup of coffee (45ml) 3.0 Wh
 - Ready mode (24 h) 46.0 Wh
 - Spare mode (24 h) 16.0 Wh
 - Standby mode (24 h) 2.0 Wh



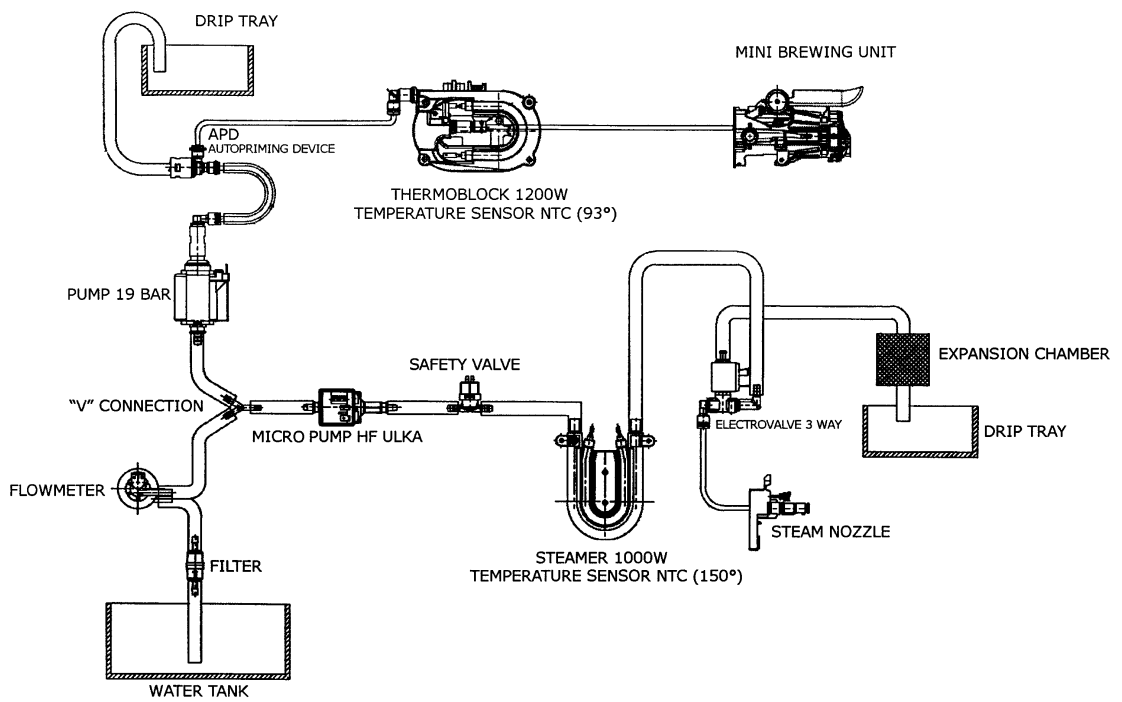
3.2 Functional diagram



3.3 Wiring diagram



3.4 Hydraulic diagram



3.5 Reading memory

1. Switch off machine
2. Press and hold Standby button
3. Switch on the machine, keep the Standby button pressed for 5 sec
4. Statistical mode is enabled: Standby button can be released
5. Press and hold the following button:

Espresso button for **Number of coffees**

Cappuccino button for **Numbers of milk preparation**

Coffee button for **Litres of coffee**

Macchiato button for **Litres of milk preparation**

Hot water button for **Litres of hot water**

Standby button for **Numbers of descaling**

Value indication:

Macchiato LED: **unit**

Coffee LED: **tens**

Cappuccino LED: **hundreds**

Espresso LED: **thousands**

To switch off the mode, the machine shall be turned off

To exit the procedure, switch off the machine



4.OVERVIEW OF RATING PLATE



4.1 Rating plate

The rating plate carries the following information :



DELONGHI

Type

Ser . Nr . Composition

7 = Last digit of production years
 04 = Production week
 15 = Years referring to 1992
 Es : 7 04 15
7 = 2007
04 = Week 4
15 = 1992 + 15 = 2007

Serial number structure

The serial number is a 19 digits code allowing to know all details of the machines. The information is the following:

- Production date (digit 1 and 2 = two last characters of the year, e.g. 06 for 2006, digit 3 to 5 = exact number of the production day, e.g. the 28th February = 059 (31+28))
- Machine type
- Production site and line
- Incremental number
- Partner (if any)
- Voltage
- Plug
- Colour
- Check sum, which is a calculated number to verify the authenticity of the code

Here is the code structure

Digit																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
9	9	0	3	3	7	3	7	1	0	0	0	1	1	0	0	0	1	4
Year		Day			Type			Site	Number				Partner	Plug	Color		CS	



5. TIGHTENING TORQUES FOR SCREWS

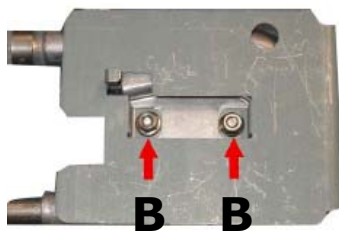


5.1 TIGHTENING TORQUES FOR SCREWS

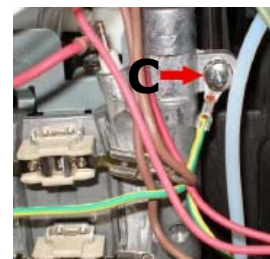
A	=	0,9 Nm
B	=	1,2 Nm
C	=	2 – 2,5 Nm



Back panel



Thermal Cut Off



Ground connection



6. MEASURING COFFEE TEMPERATURE



6.1 MEASURING COFFEE TEMPERATURE

1. Switch on machine
2. Position measuring beaker underneath coffee outlet
3. Open jaw and insert capsule
4. Close jaw
5. Press button
6. Wait until 20 ml coffee has flown in the measuring beaker and measure the coffee temperature approx. 5 – 10 mm below the outlet opening.

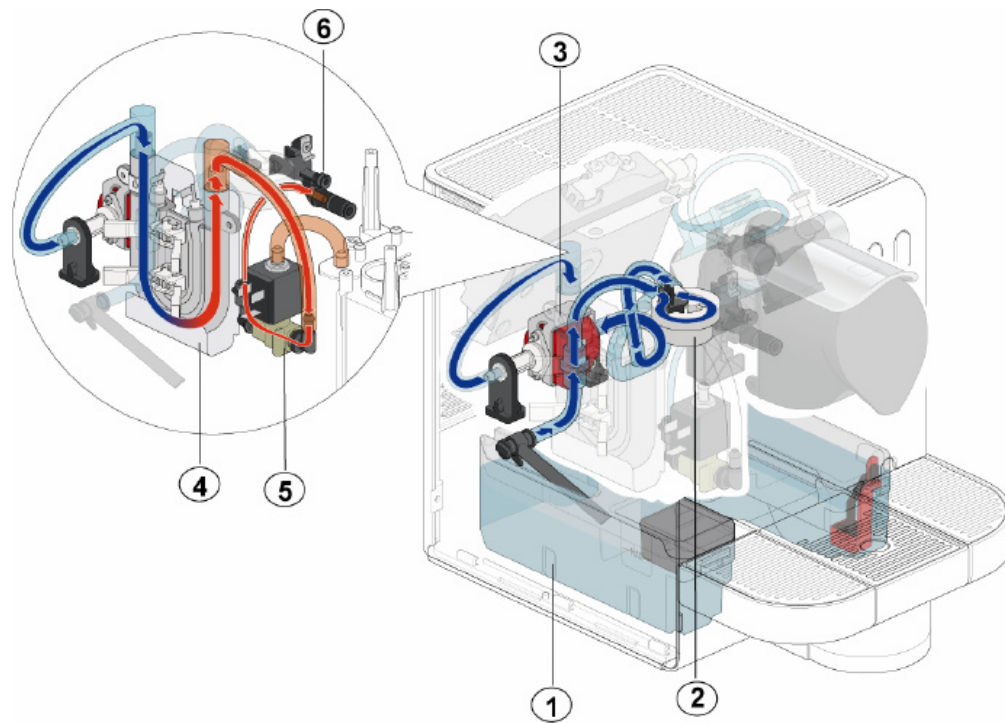


7. WATER CIRCUIT



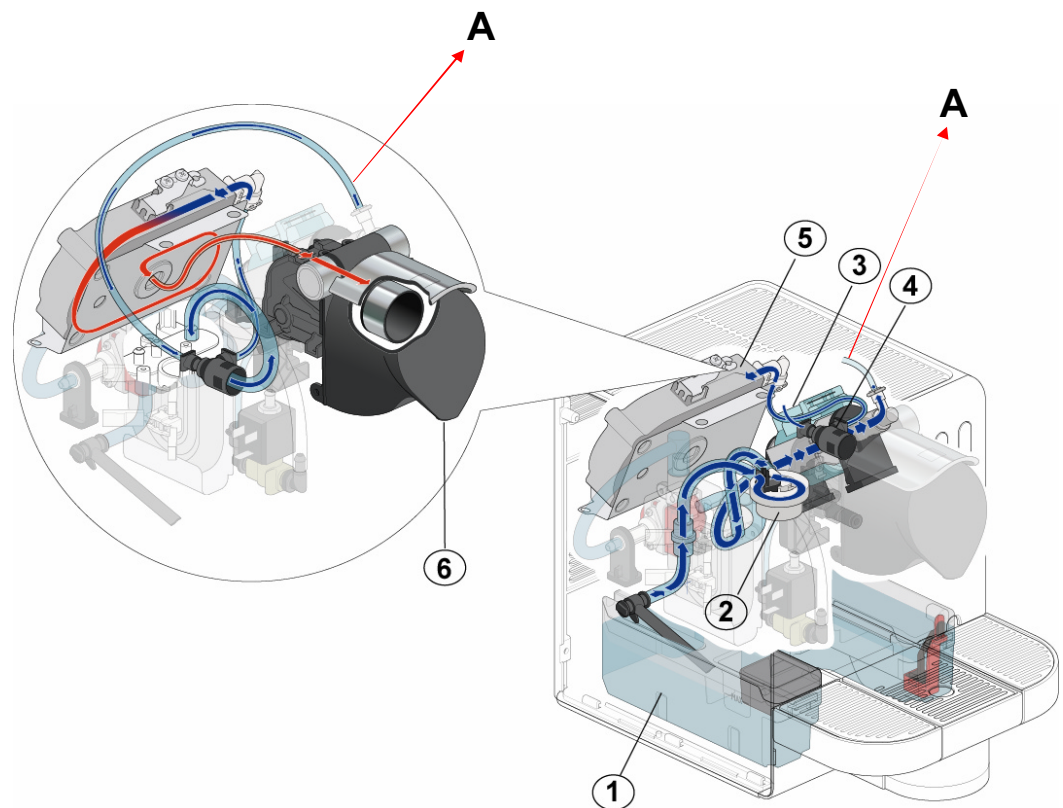
7.1 Steam water circuit

- 1. Water tank
- 2. Flowmeter
- 3. Pump
- 4. Heating element
- 5. Solenoid valve
- 6. Steam outlet



7.2 Coffee water circuit

- 1. Water tank
- 2. Flowmeter
- 3. Pump
- 4. Priming device
- 5. Thermoblock
- 6. Coffee outlet

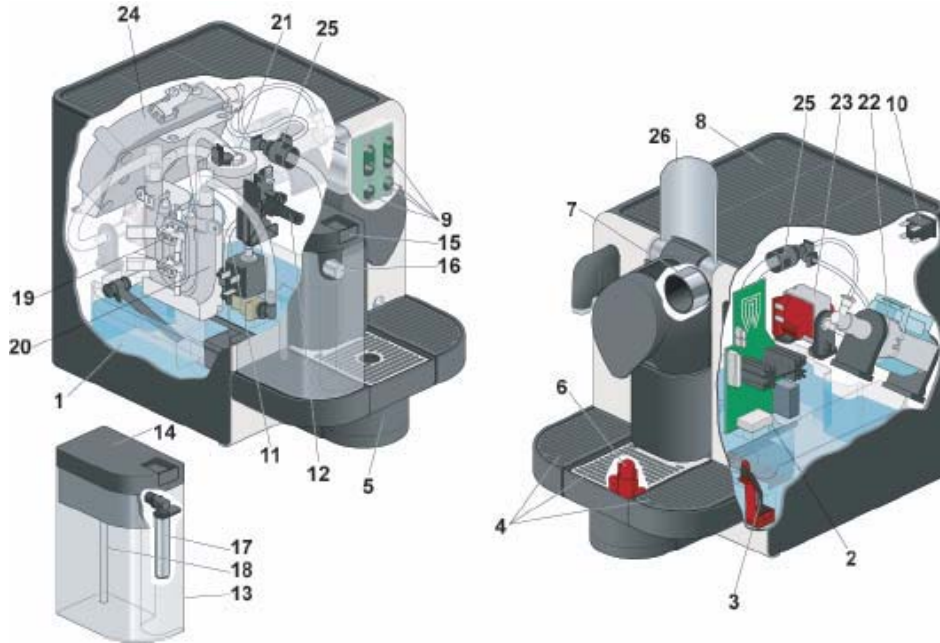


8. MAIN COMPONENTS



8.1 Main components

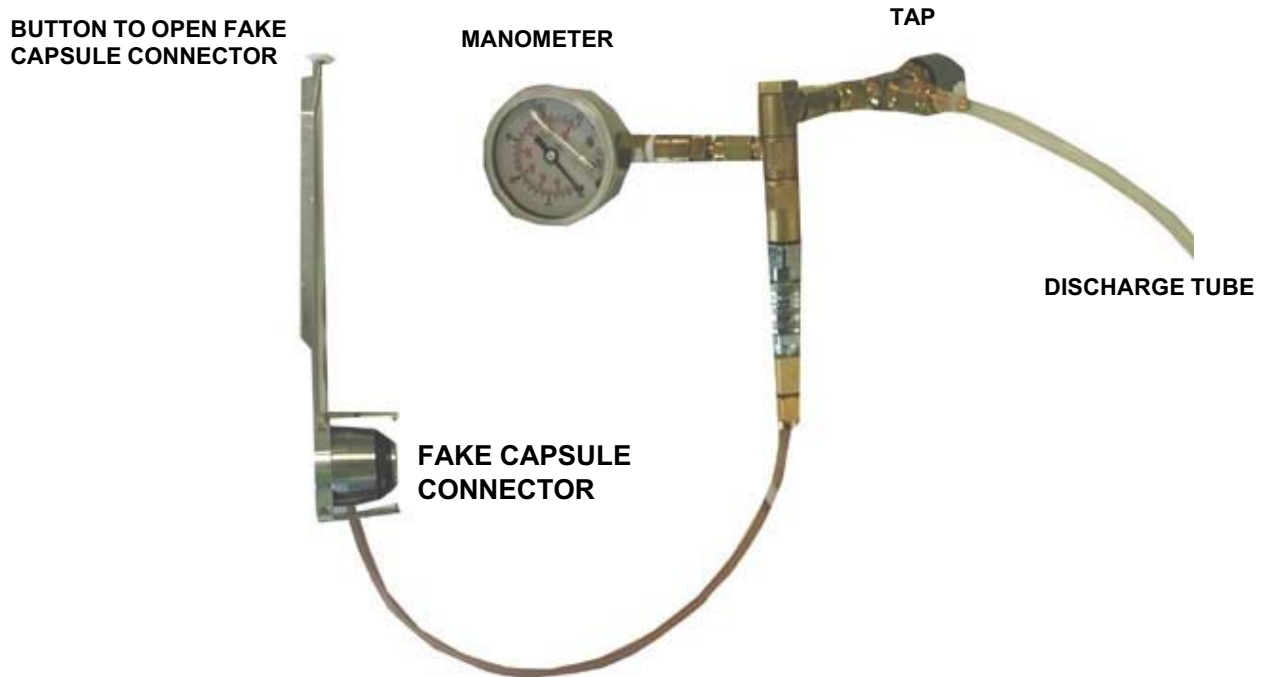
- | | | | |
|--|---------------------|----------------------------------|--------------------|
| 1. Water tank | 9. Push buttons | 17. Frothed milk dispensing tube | 25. Priming device |
| 2. Electronic board | 10. Main Switch | 18. Milk intake tube | 26. MBU lever |
| 3. Floater | 11. Solenoid valve | 19. Thermal Cut Off | |
| 4. Drip tray grid, grid left, grid right | 12. Steam Coupling | 20. Steam Heating element | |
| 5. Drip tray | 13. Milk Carafe | 21. Flowmeter | |
| 6. Floater | 14. Lid | 22. Coffee Pump | |
| 7. Capsule cage | 15. Frothing slider | 23. Steam/Hot water Pump | |
| 8. Cup plate | 16. Clean button | 24. Thermoblock | |



9. WATER LEAKAGES AND PUMP PRESSURE TEST



9.1 Components

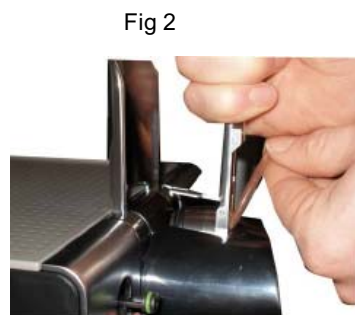
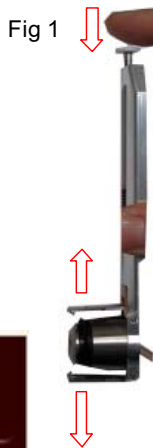


9.2 Procedure to check for water leakages and pump pressure

1. Open the machine .
2. Disconnect the heating elements and isolate them.
3. Prepare an empty jug under the discharge tube.
4. Press button to open fake capsule connector by opening the clamps (**fig 1**).
5. Insert the faked capsule inside the MBU, and block it by releasing the button (**fig. 2**).
6. Make sure the faked capsule is well placed and fixed (**fig. 3**).
7. Switch the machine on.
8. Open the tap.
9. Press the coffee button and let the water flow to the jug for about 10 seconds.
10. Close the tap.
11. The pressure will start to rise, getting stable between **16 and 19 bar**.
Check the water pump pressure (**fig 4**).
12. Check all the hydraulic connections for water leakages.
13. If , after having checked all parameters, the pressure of the pump is under 16 bars, change the pump.



The residual pressure must be released after the test by opening the valve!
The pump is permitted to be in operation for max. 50 sec. without an outlet.



9.3 MBU closing force setting

Setting procedure (without capsule):

- Step 1: Close the handle and give load to the setting screw
Preload of the system to compensate first creeping
- Step 2: Open the handle
- Step 3: Give load (11N) to the handle
- Step 4: Drive setting screw slowly backwards until the handle closes completely.
- Step 5: Repeat steps 1 to 4
- Step 6: Control closing force by closing the handle with a spring balance
Closing force must be in the range of $13,5 \pm 2$ N

