MACCHINE DA CAFFE' AUTOMATICA
AUTOMATIC COFFEE MACHINES

DE LONGHI ECAM23.450
(AT/DE)

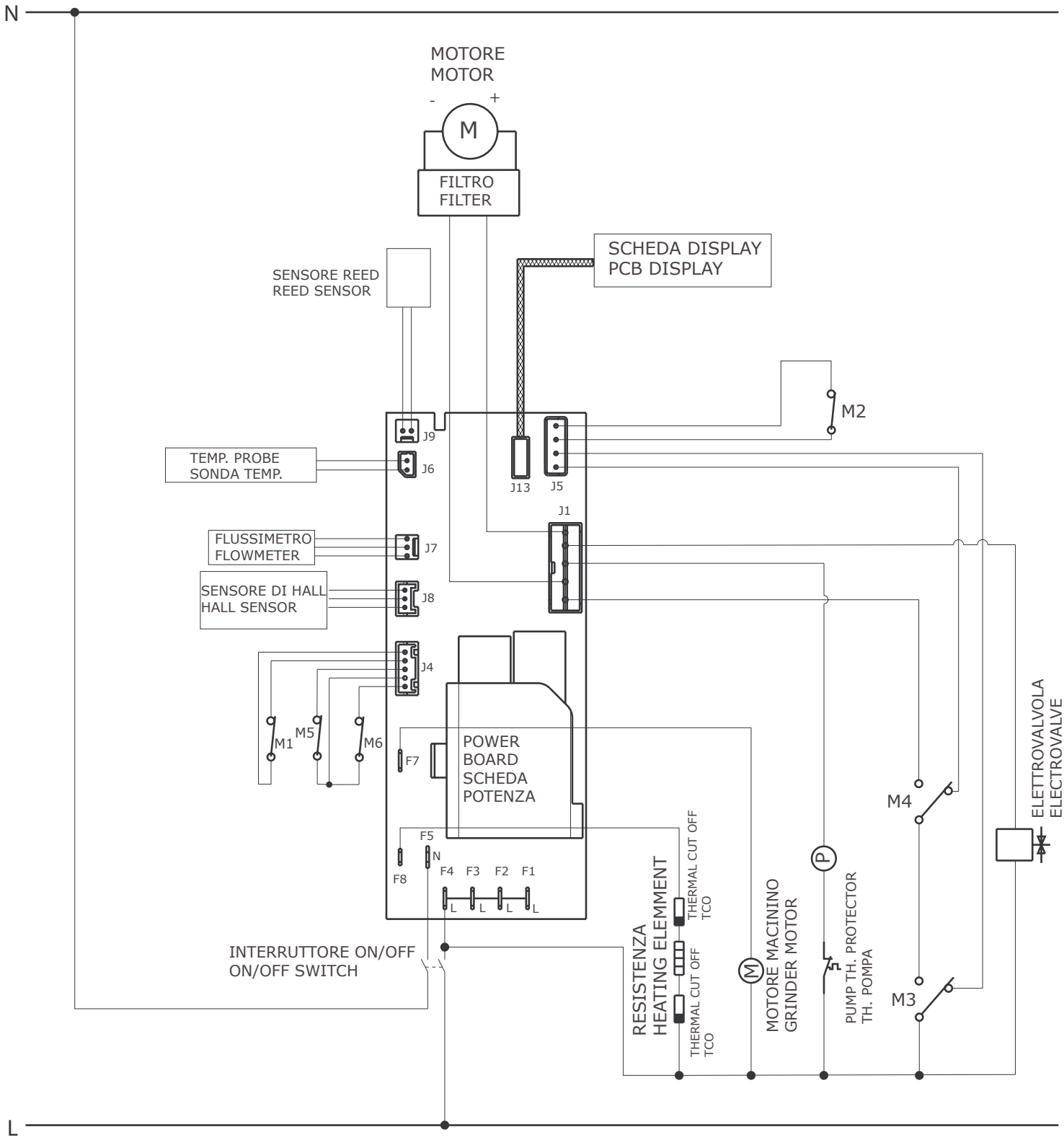
DATI TECNICI / TECHNICAL DATA / TECHNISCHE DATEN
DONNEES TECHNIQUES / DATOS TECNICOS

Voltaggio / Voltage / Spannung / Voltage / Voltaje	V / Hz 220 - 240 / 50 - 60
Max. potenza assorbita / Max. input power	W 1450

SEZIONE CAFFE' / COFFEE SECTION

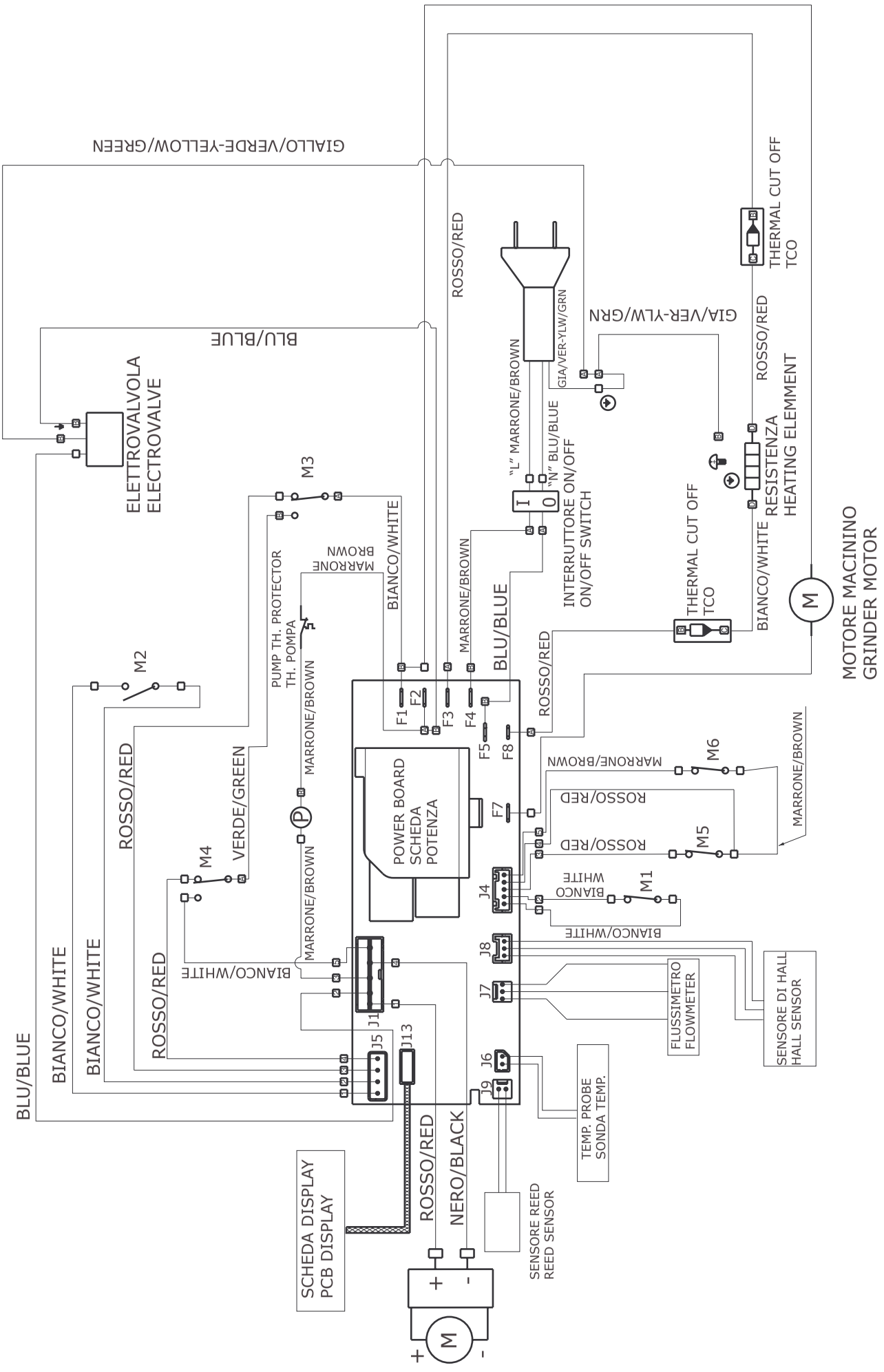
Sonda termica / Temperature probe	°C 98 (Caffè) °C 140 (Vapore)
Fusibile termico TCO / Thermal fuseTCO	°C 192
Resistenza riscaldamento	W 1400
Pompa / Pump	TYPE / W ULKA EP5W / 48

SCHEMA ELETTRICO / ELECTRICAL DIAGRAM

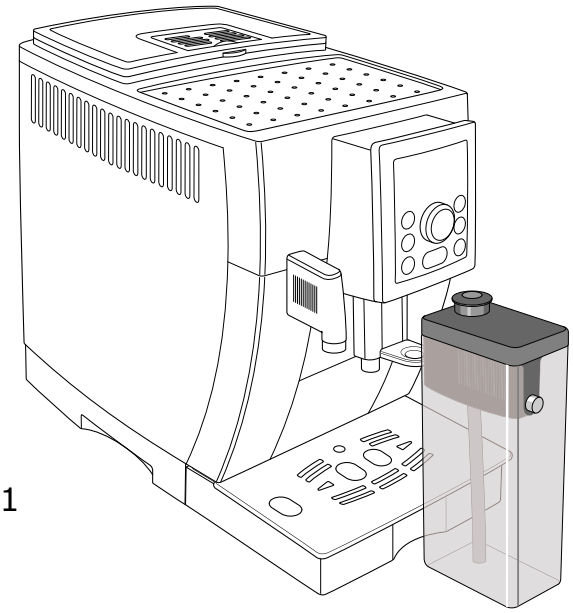


LEGENDA MICRO / MICROSWITCHES	
M1	Infusore alto / top infuser
M2	Infusore basso / Infuser bottom position
M3	Cassetto fondi / Coffee grounds container
M4	Serbatoio acqua / Water Tank
M5	Presenza dispositivo IFD / IFD device in place
M6	Presenza erogatore acqua calda / Hot water spout in place

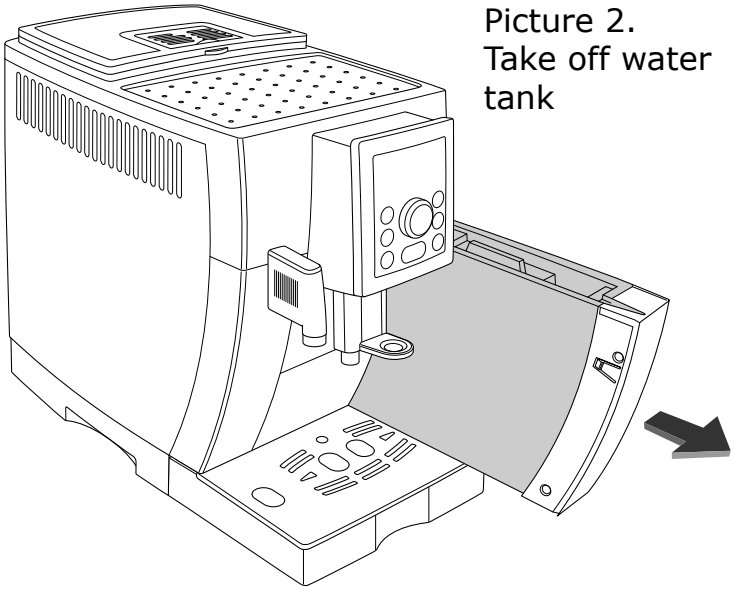
SCHEMA ELETTRICO / ELECTRICAL DIAGRAM



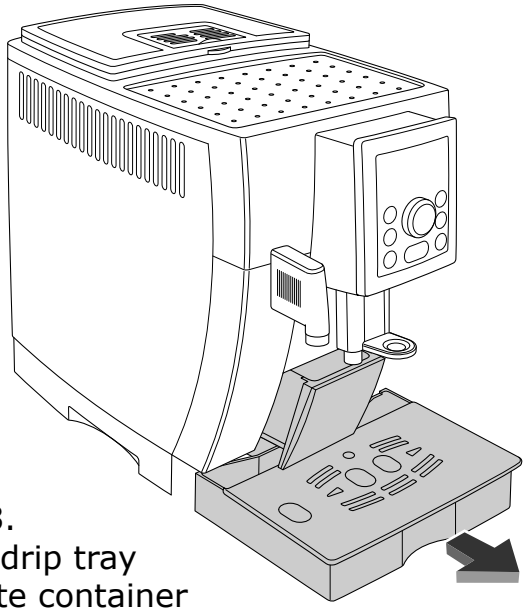
ACCESSIBILITY



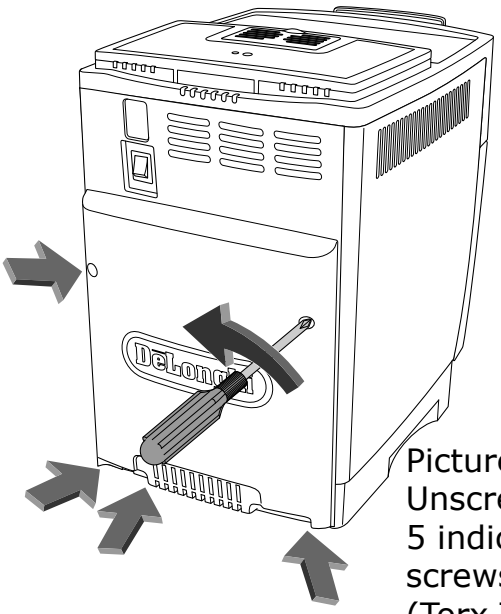
Picture 1



Picture 2.
Take off water tank

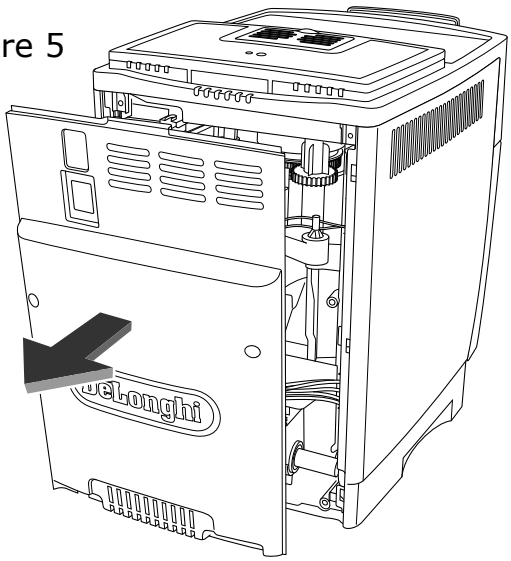


Picture 3.
Take off drip tray and waste container

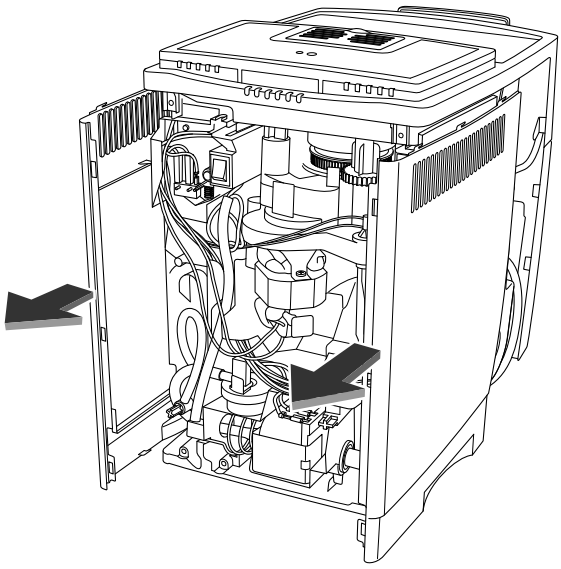


Picture 4.
Unscrew the 5 indicated screws (Torx T20)

Picture 5

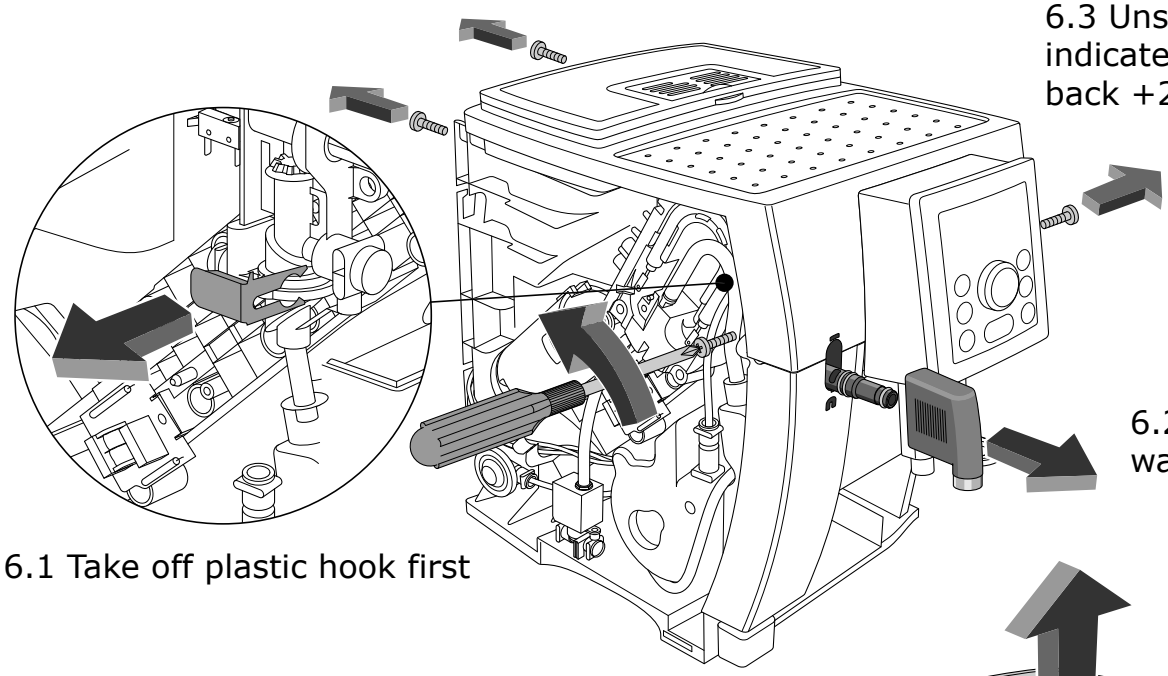


5.1 Remove back panel



5.2 Unhook side panels

Picture 6 - **TO REMOVE CONTROL PANEL**

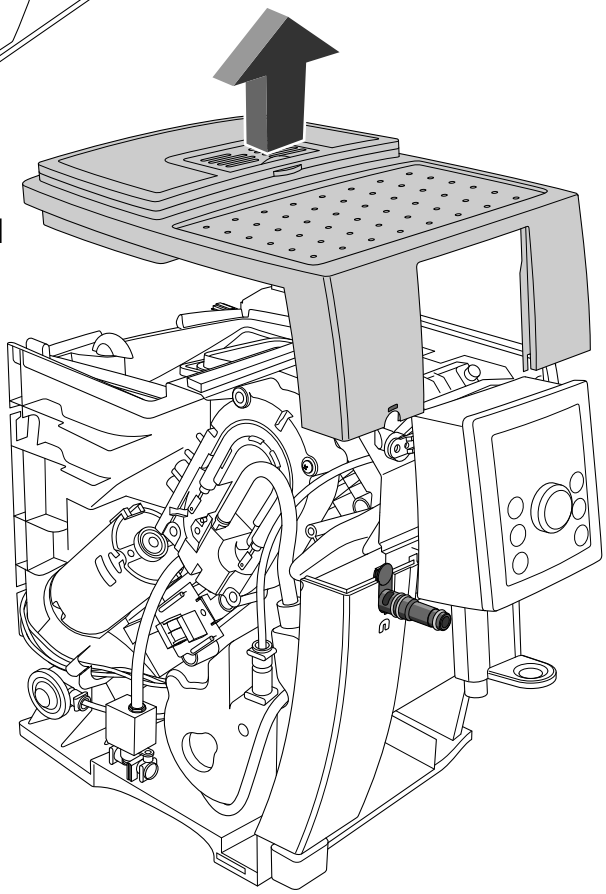


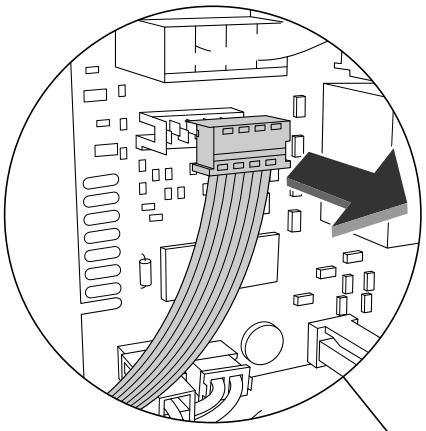
6.3 Unscrew the 4 indicated screws (2 on the back +2 on the sides)

6.2 Take off hot water spout

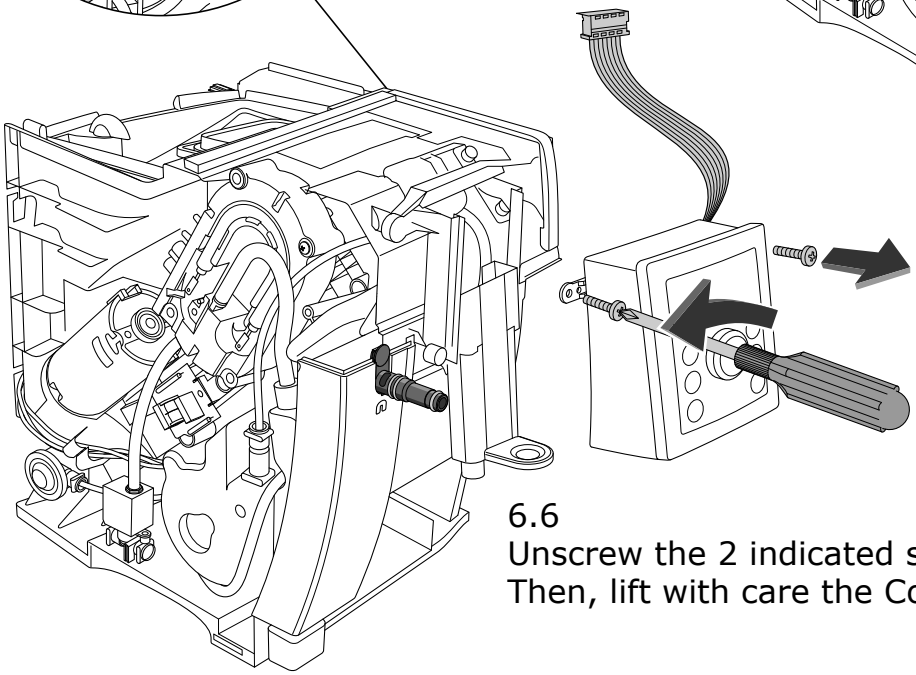
6.1 Take off plastic hook first

6.4
Lift upper panel



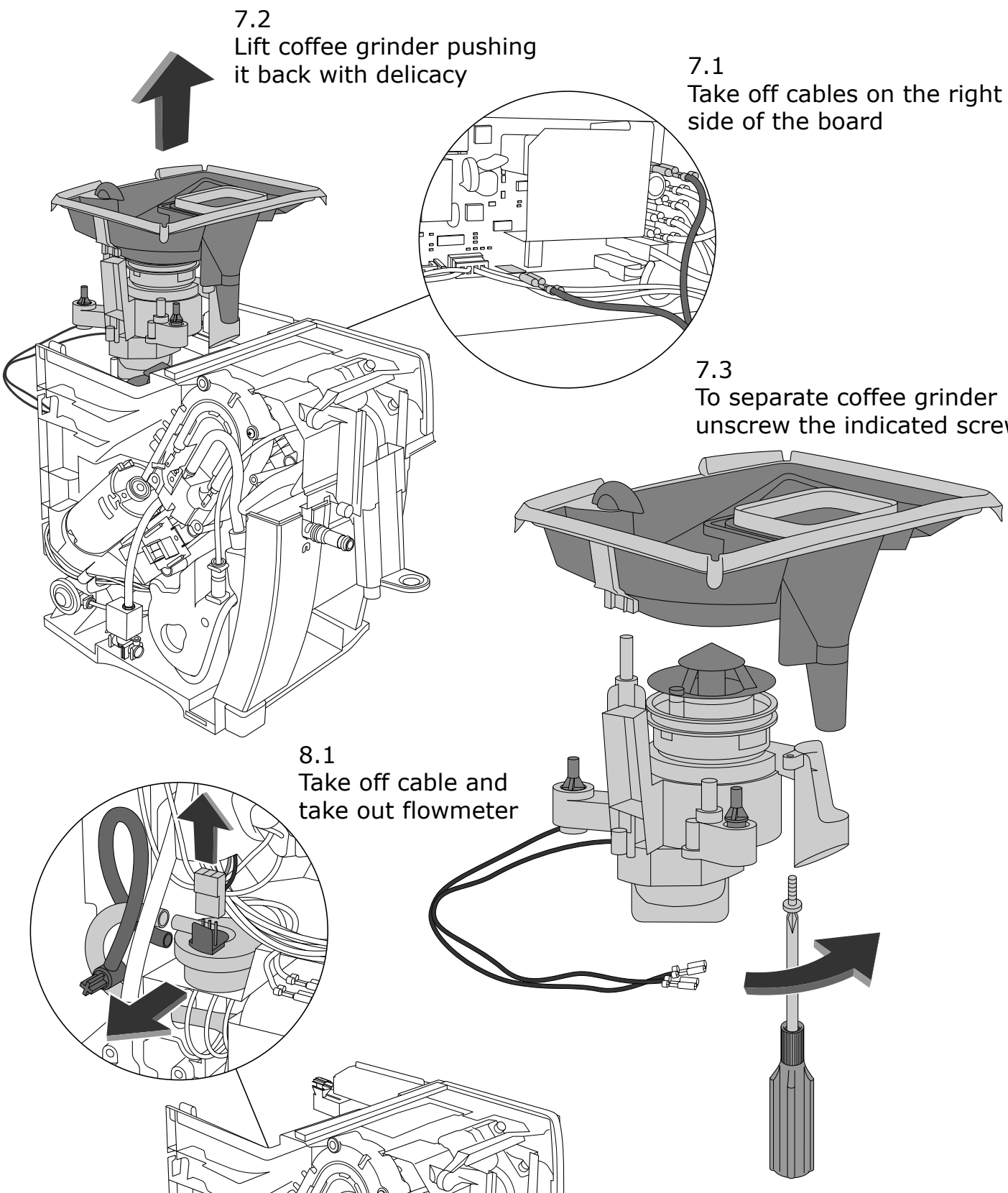


6.5
Take off cable

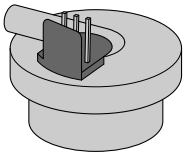


6.6
Unscrew the 2 indicated screws.
Then, lift with care the Control Panel

Picture 7 - **TO REMOVE COFFEE GRINDE**R

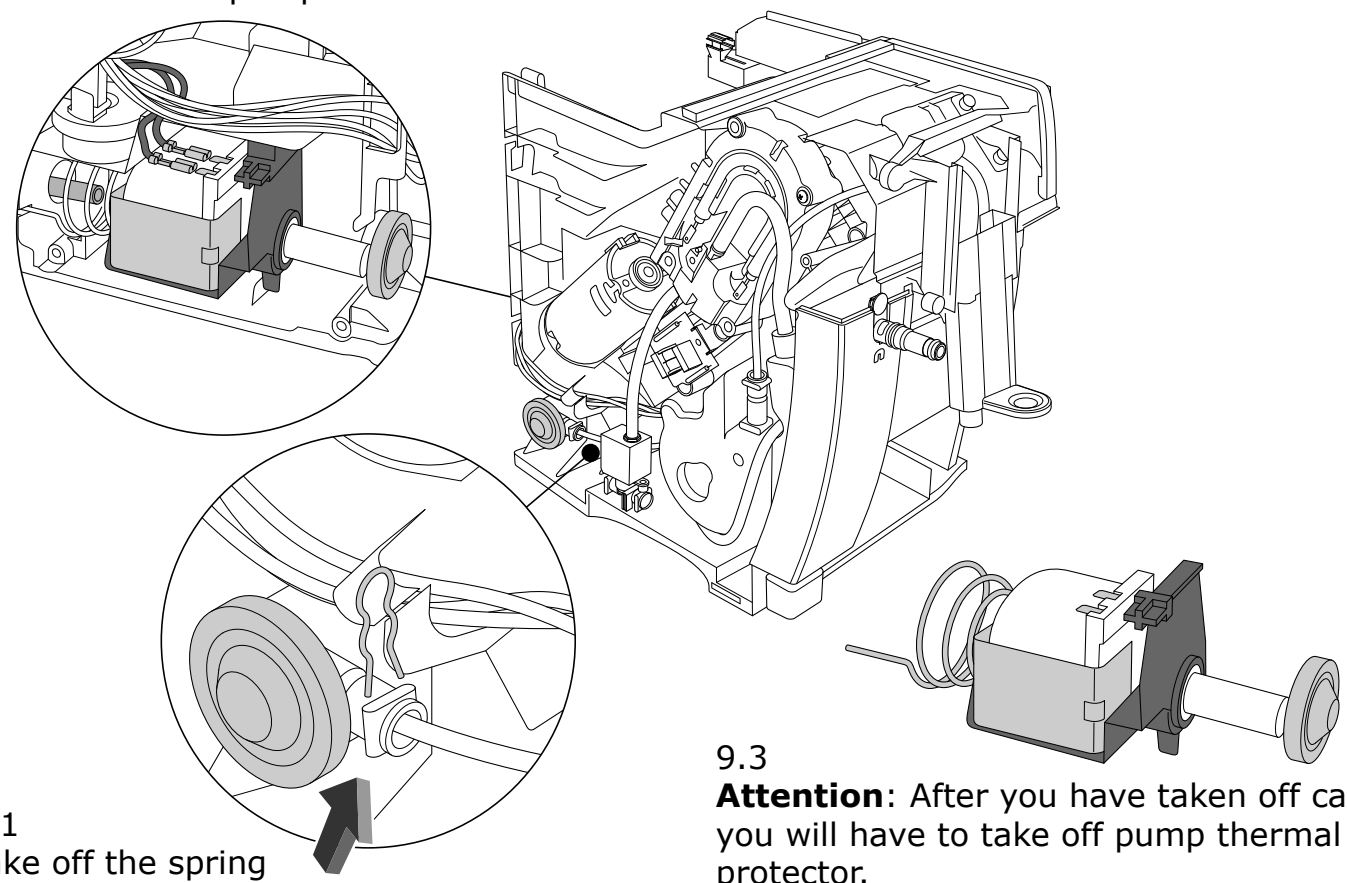


Picture 8 - **TO REMOVE FLOWMETER**



9.2
Take off pump

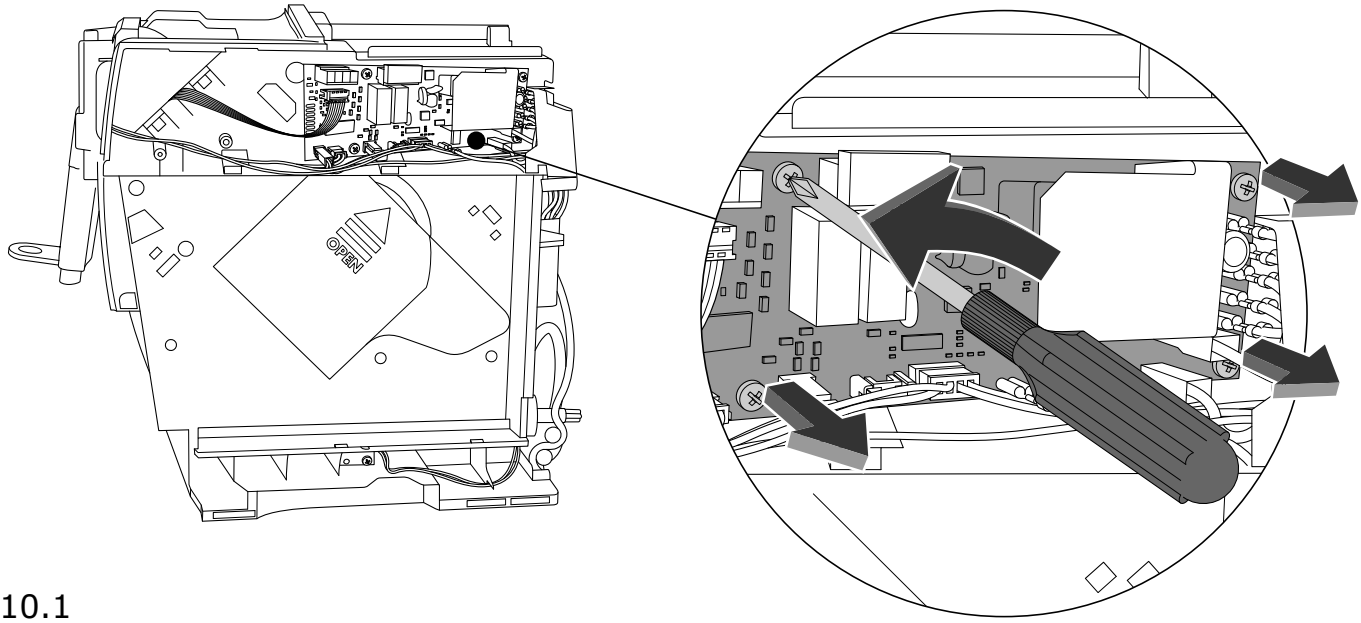
Picture 9 - **TO REMOVE PUM**P



9.1
Take off the spring and then the tube
Attention: Some water could come out from the tube, since the water circuit is empting out

9.3
Attention: After you have taken off cables, you will have to take off pump thermal protector.
Since it is glued, you will have to use a certain strength.
Remember to glue it again when you will reassemble it

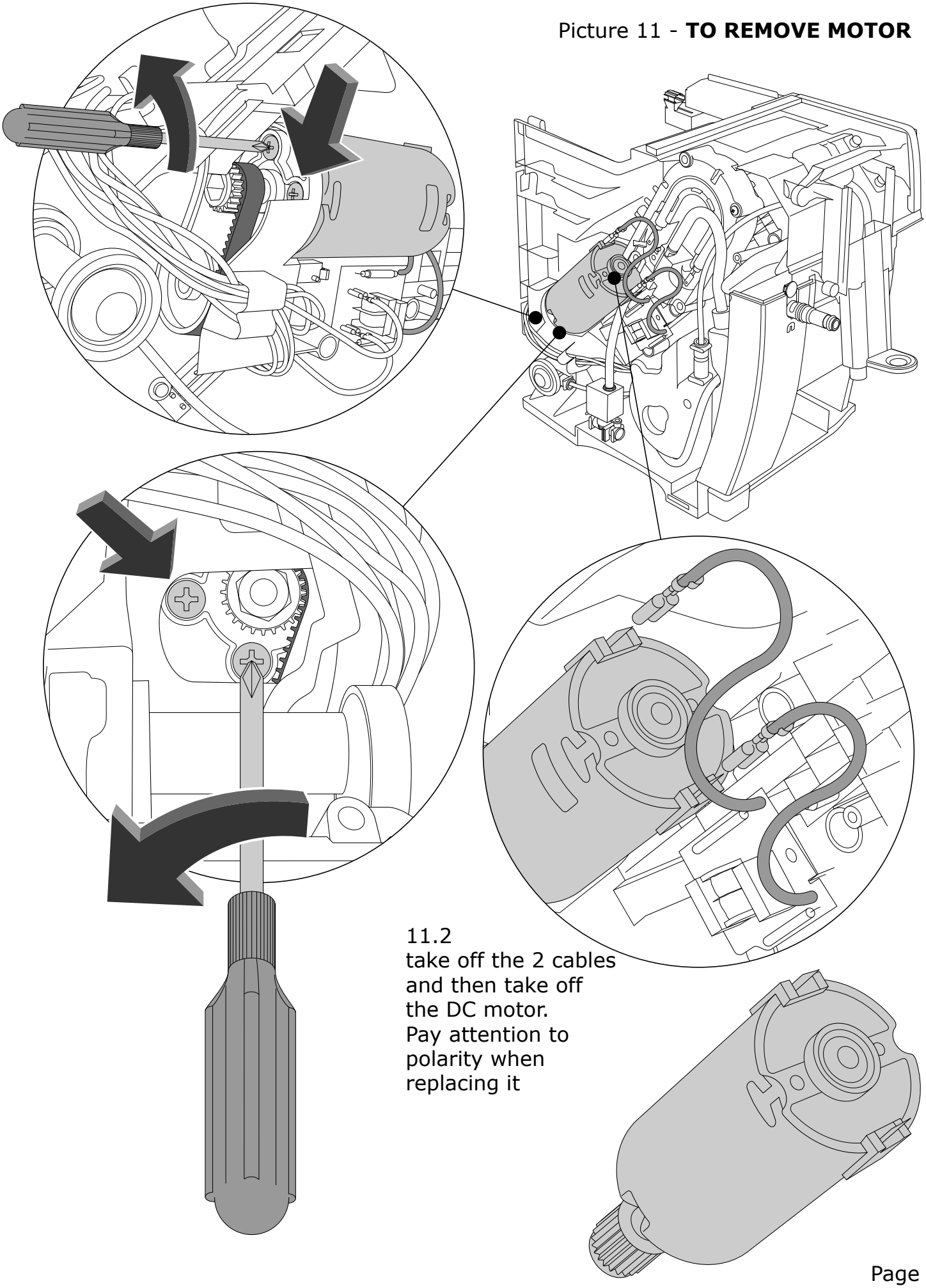
Picture 10 - **TO REMOVE BOARD**



10.1
Take off the 4 indicated screws. After you have taken off cables, take out the board

11.1
Unscrew the 4 indicated screw
you find on the rear of the motor

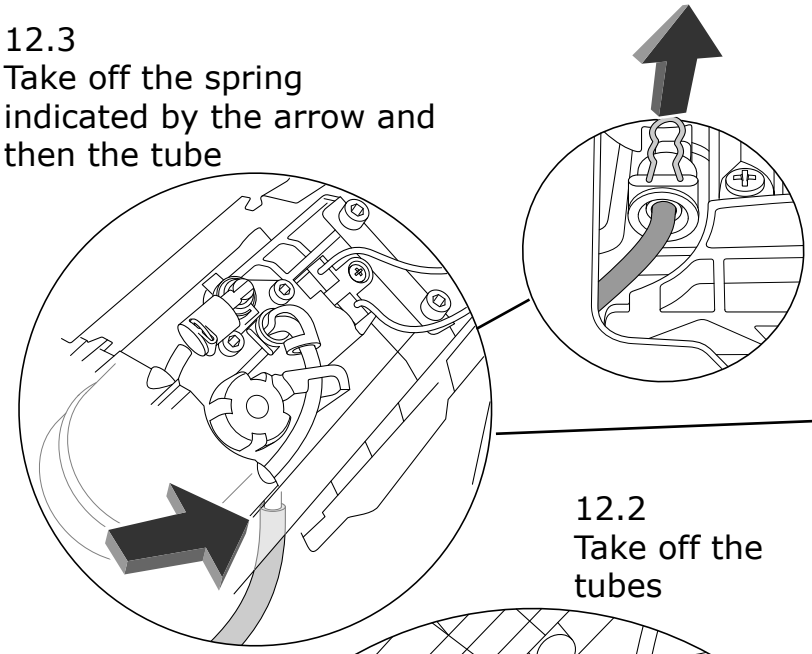
Picture 11 - **TO REMOVE MOTOR**

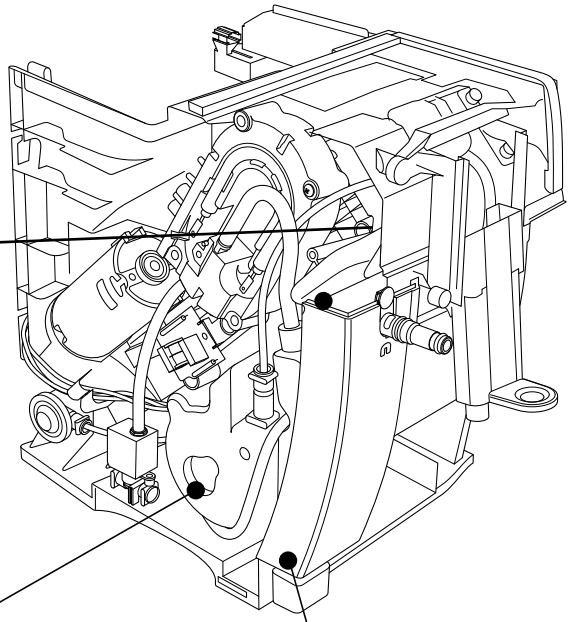


11.2
take off the 2 cables
and then take off
the DC motor.
Pay attention to
polarity when
replacing it

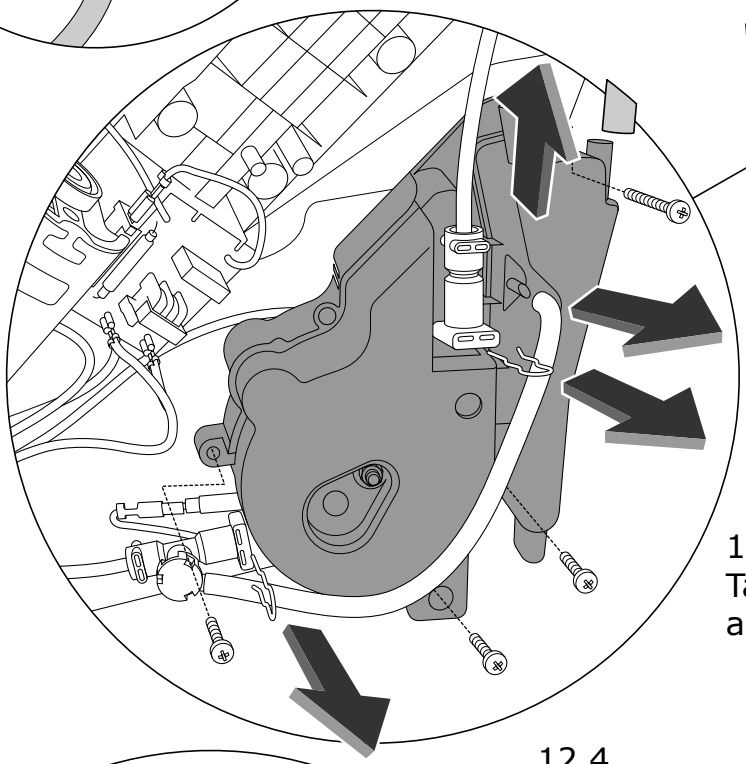
Picture 12 - **TO REMOVE BOILER**

12.3
Take off the spring indicated by the arrow and then the tube





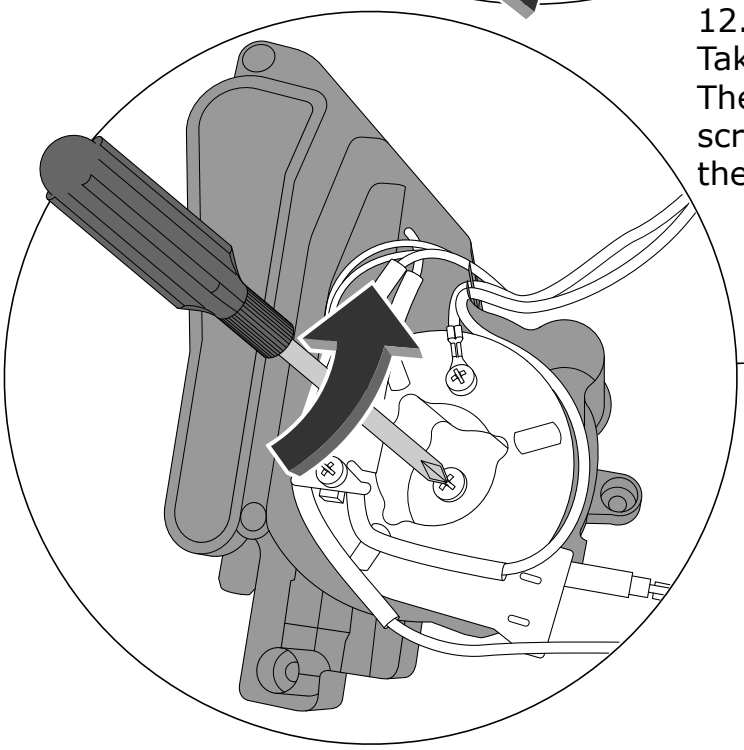
12.2
Take off the tubes

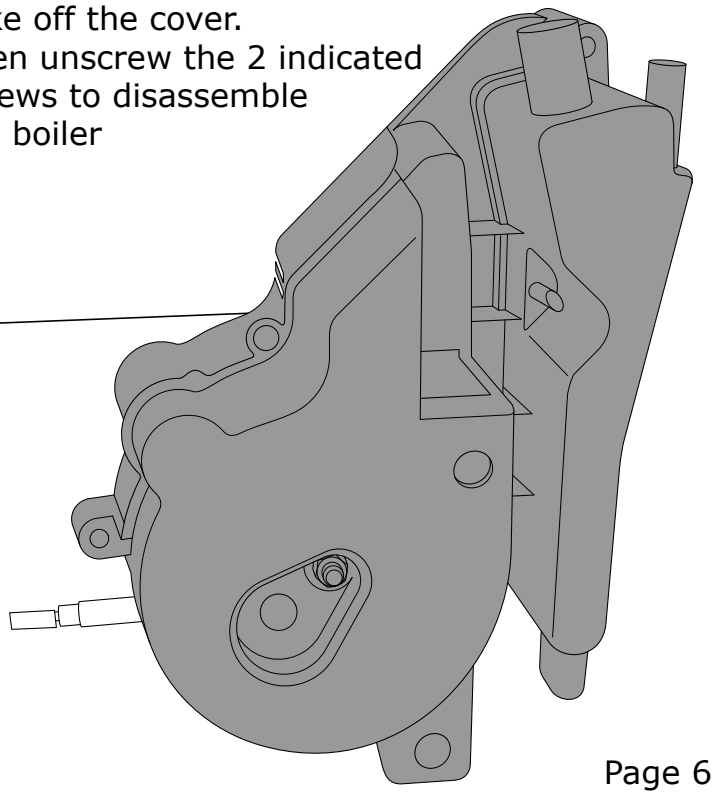


Attention: to take off the boiler, unscrew the screw and push with delicacy the plastic panel

12.1
Take off the indicated 2 springs and the 4 screws.

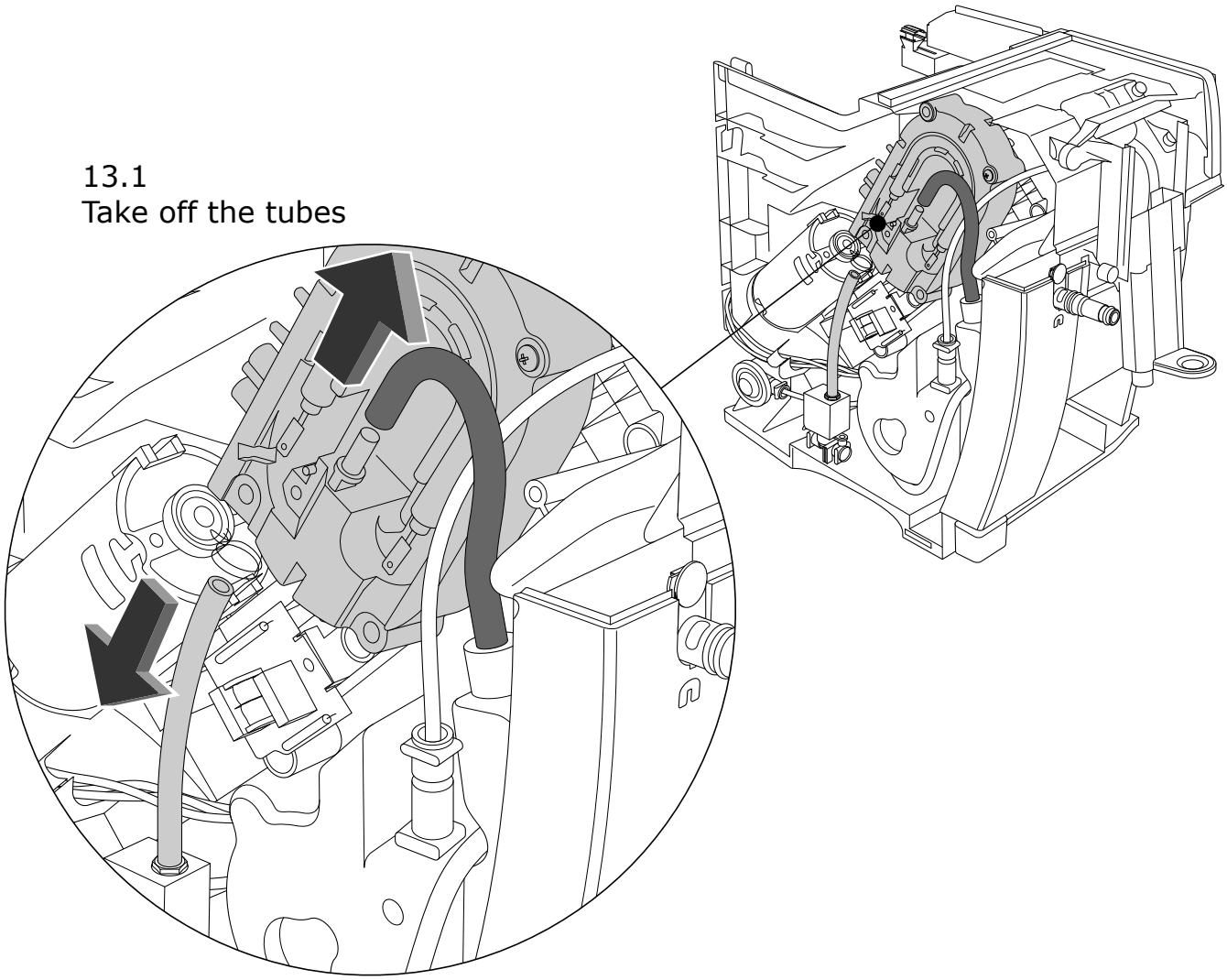
12.4
Take off the cover.
Then unscrew the 2 indicated screws to disassemble the boiler



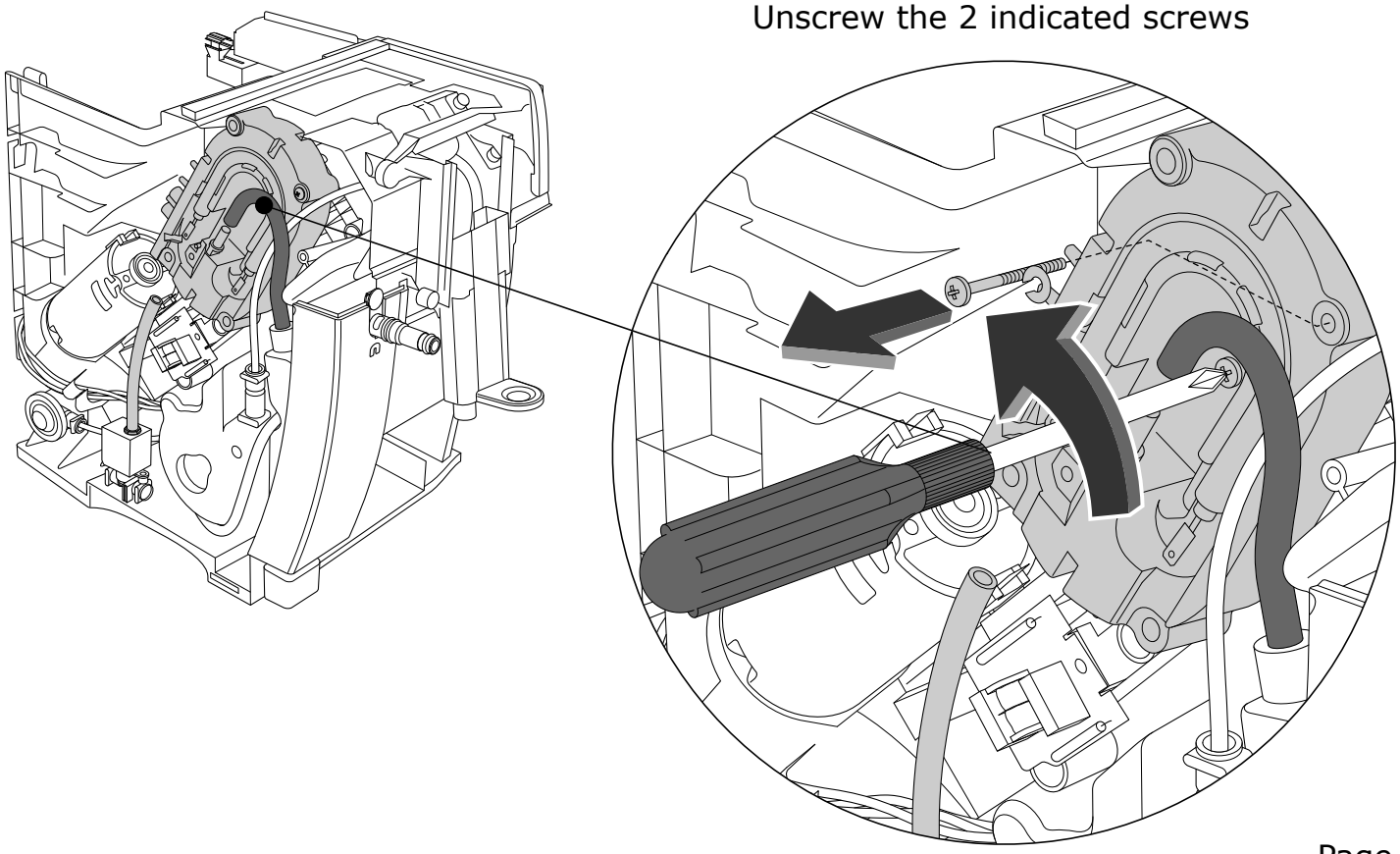


Picture 13 - **DISASSEMBLING ADDITIONAL EXPANSION CHAMBER**

13.1
Take off the tubes



13.2
Unscrew the 2 indicated screws



Picture14 - **TO REMOVE INFUSER KIT**

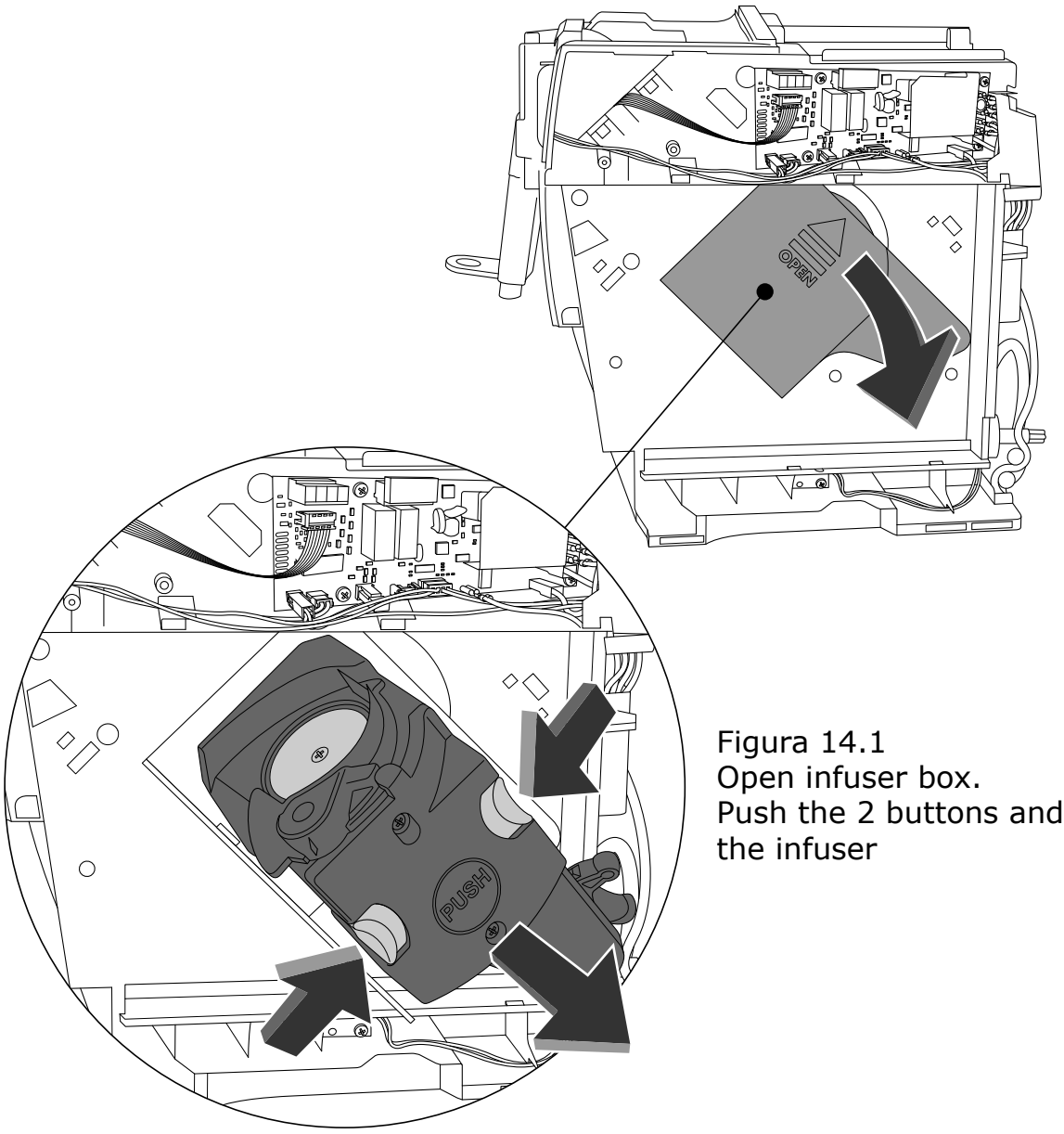
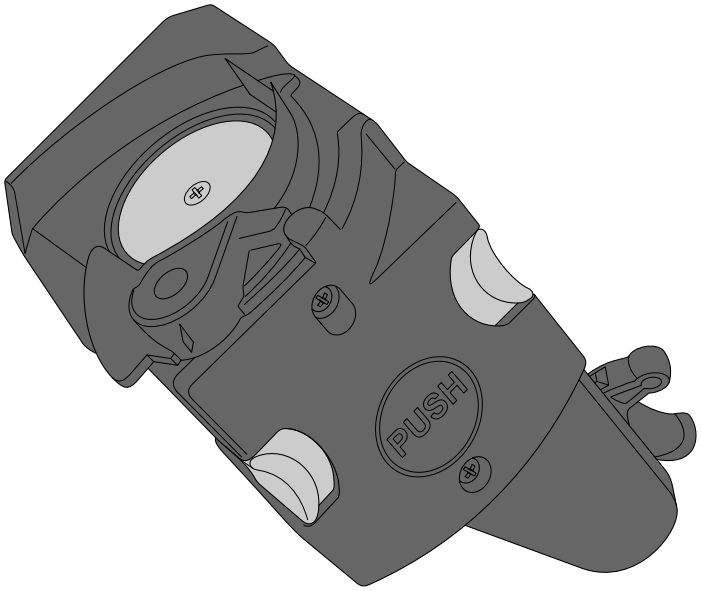
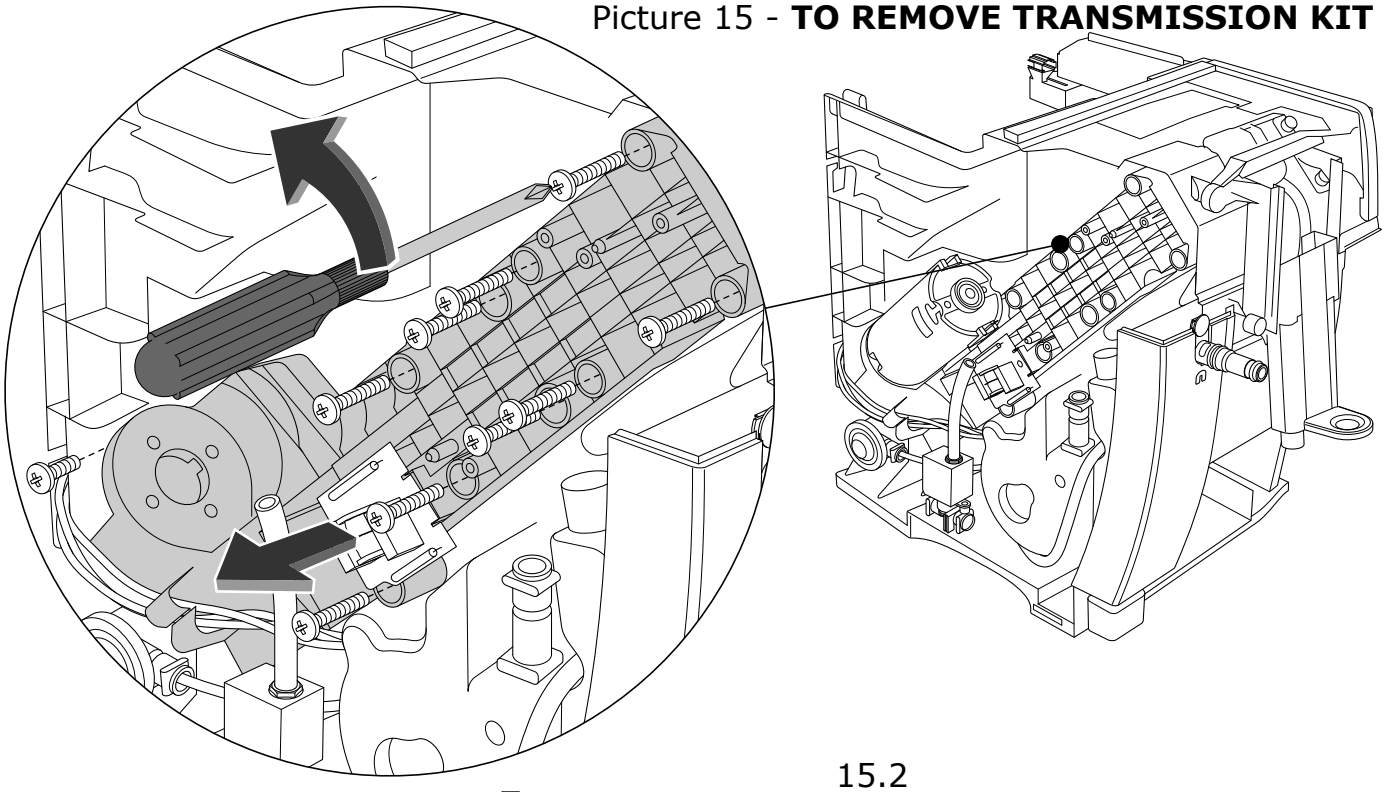


Figura 14.1
Open infuser box.
Push the 2 buttons and take out the infuser

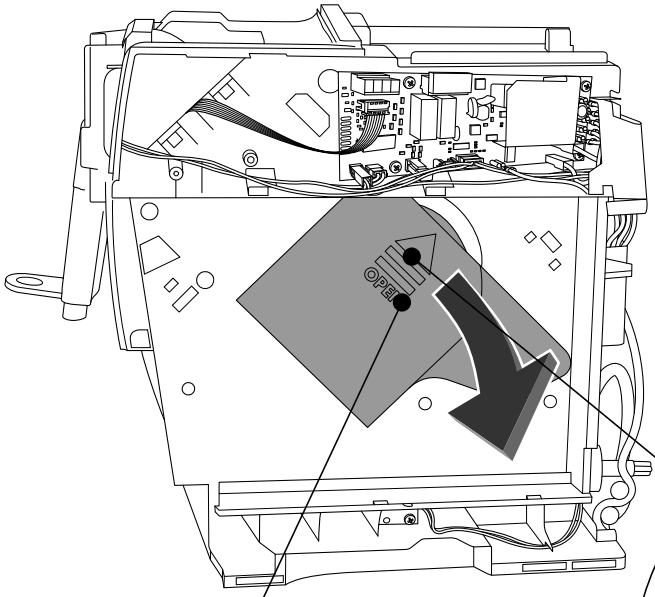


15.1
Unscrew the 10 indicated screws

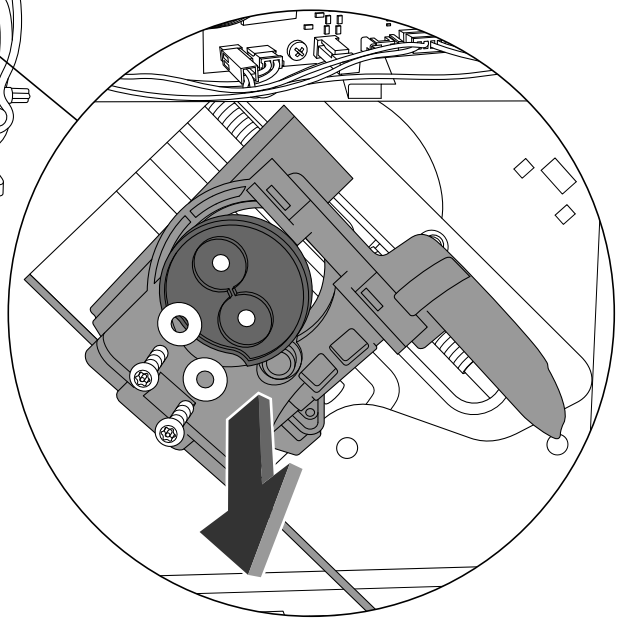
Picture 15 - **TO REMOVE TRANSMISSION KIT**

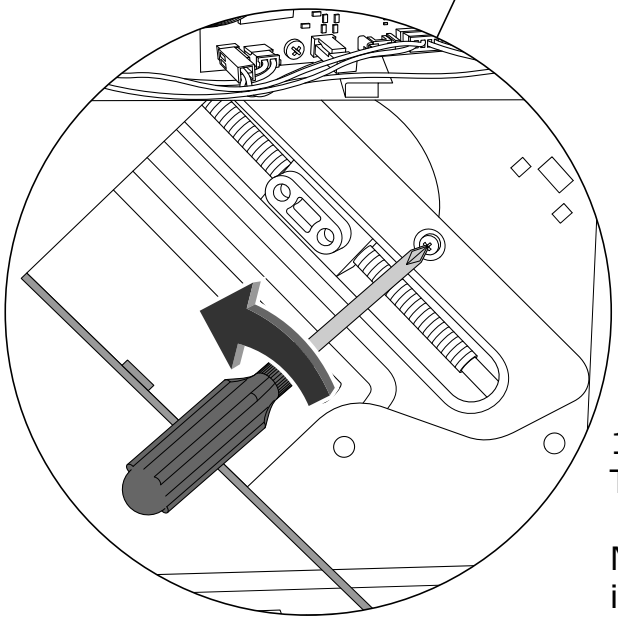


15.2
Open infuser box



15.3
Unscrew the 2 indicated screws
(Torx T20) and remove the slider

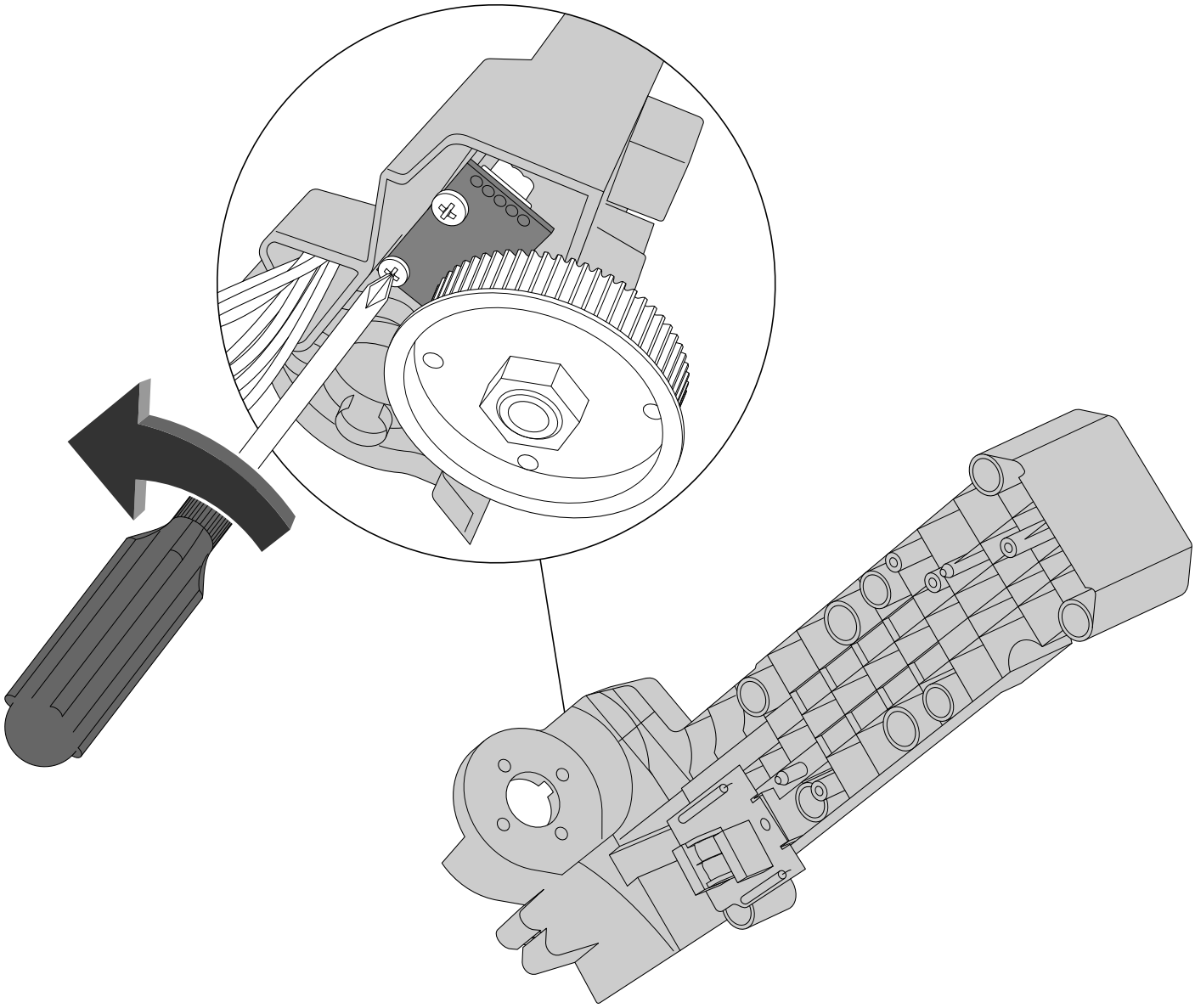




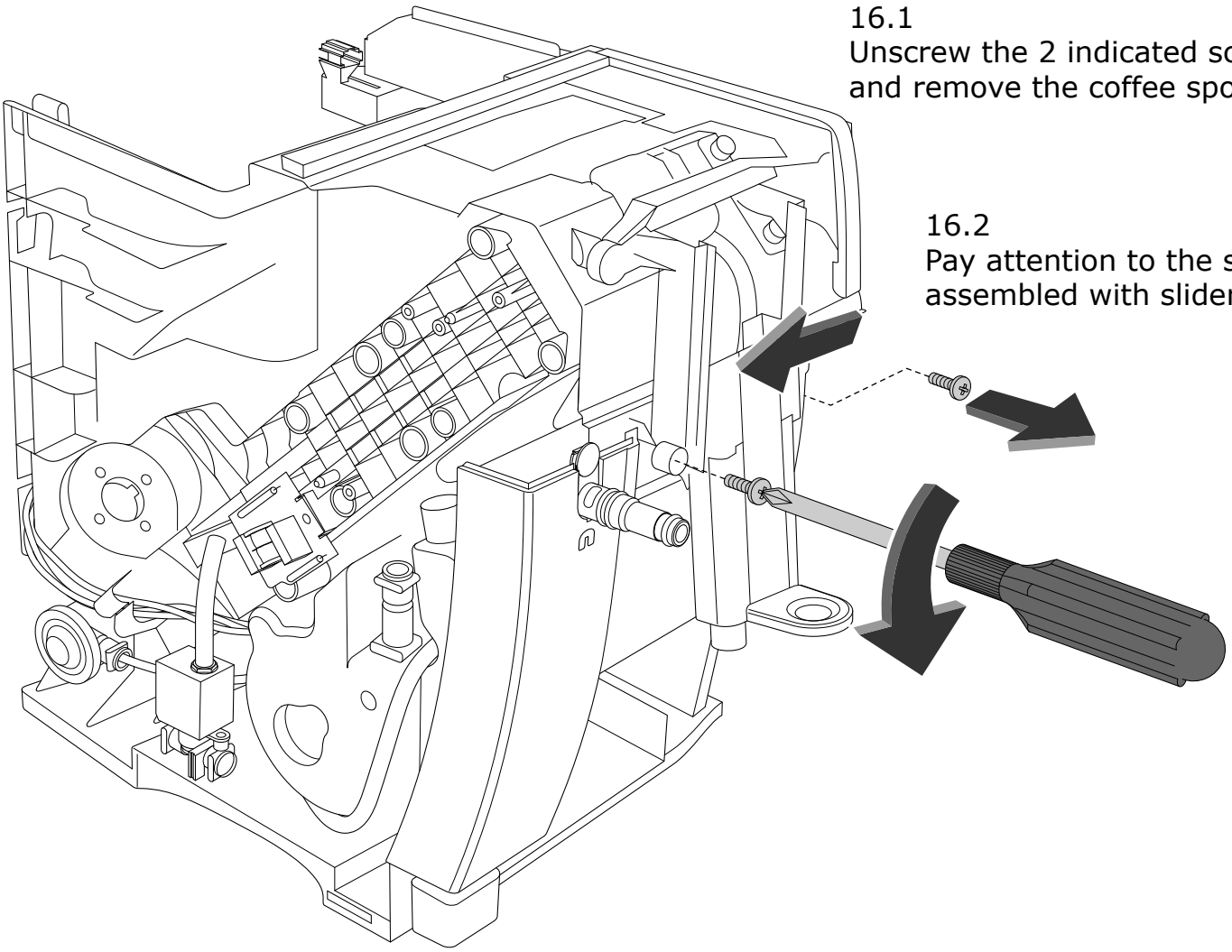
15.4
Take off the indicated screw

Now the TRASMISSION KIT
is free and can be removed

15.5
To remoce the Feeler Board (hall Sensor) unscrew the 2 indicated screw to remove the Hall sensor



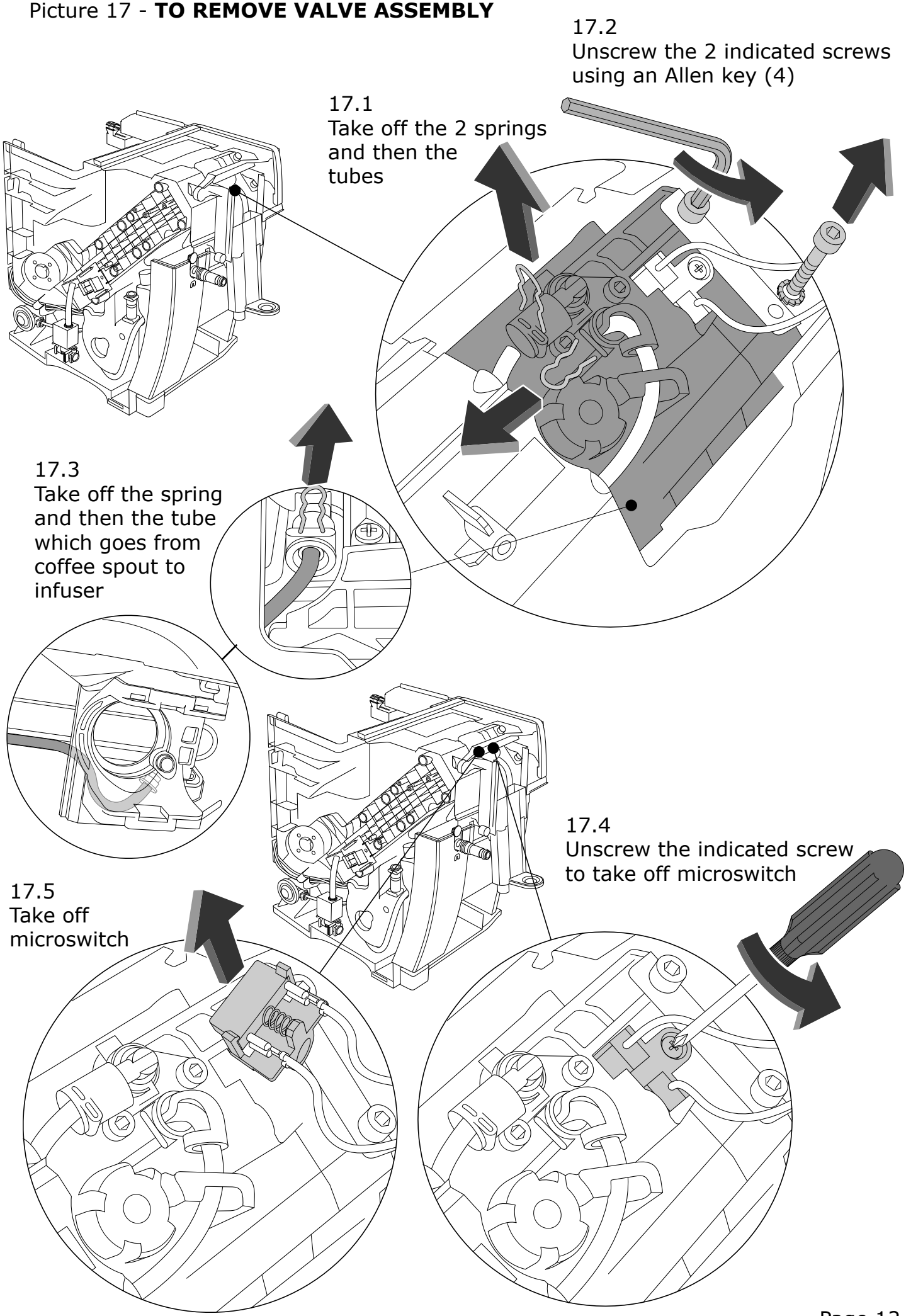
Picture 16 - **TO REMOVE COFFEE SPOUT**



16.1
Unscrew the 2 indicated screws and remove the coffee spout

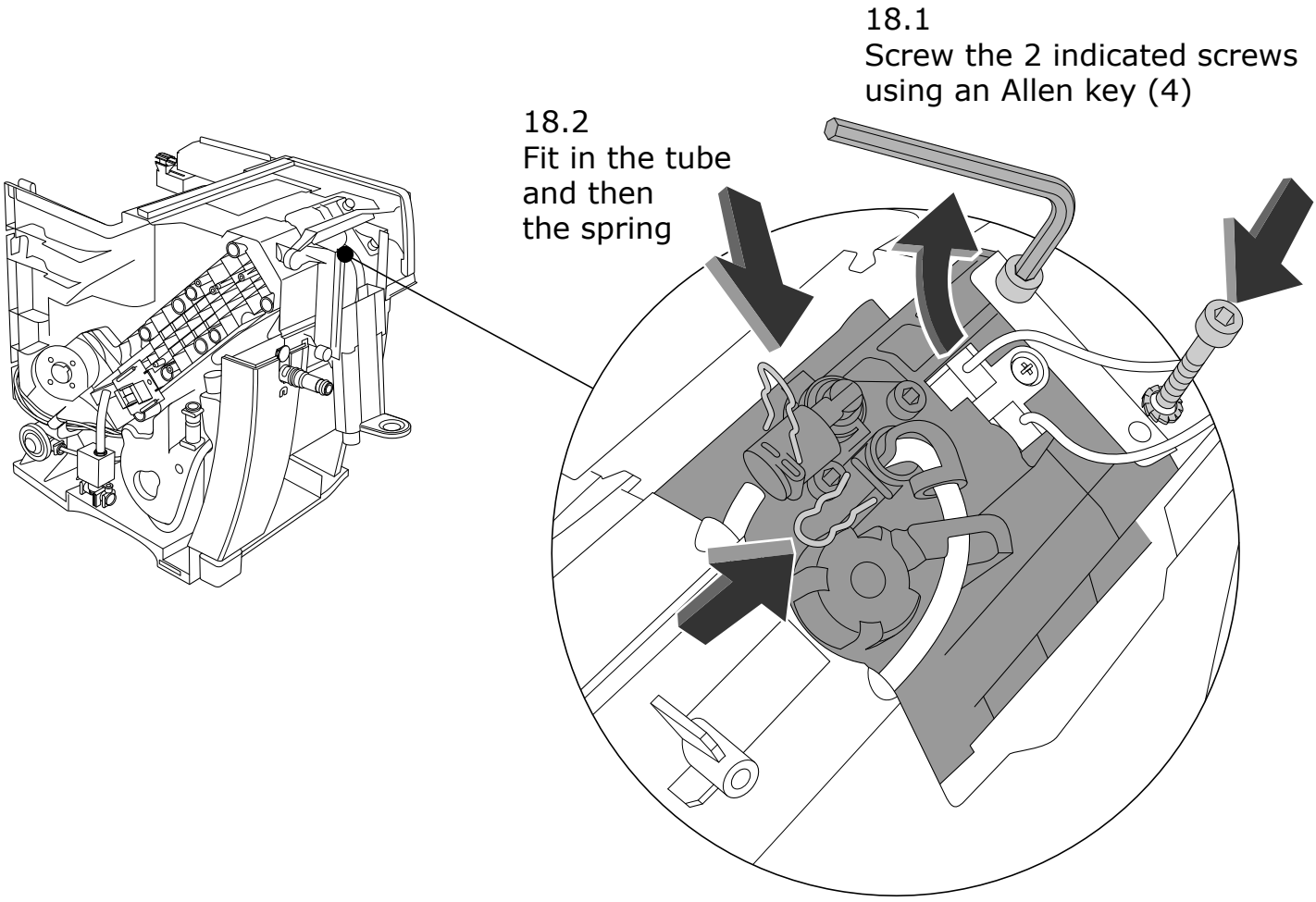
16.2
Pay attention to the spring assembled with slider

Picture 17 - **TO REMOVE VALVE ASSEMBLY**



Picture 18 **- HOW TO ALIGN VALVE**

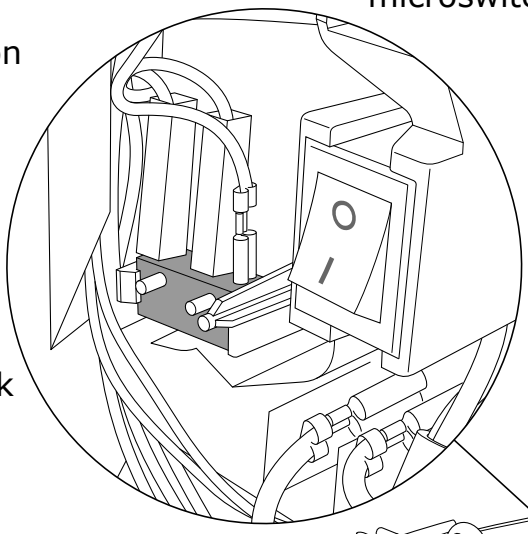
Lift the infuser up to to touch the valve, without pushing with strength: it has only to be aligned to the valve.
Once you aligned it, fix the 2 screws (pic. 18.2) using an Allen key.

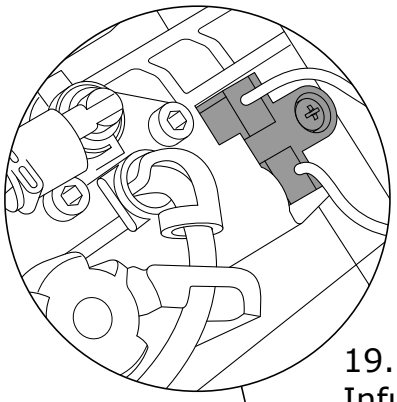


Picture 19 - **MICROSWITCH AND WATER REED POSITION**

ATTENTION: please, pay attention to never bypass microswitch. If you should do it infuser motor would be on

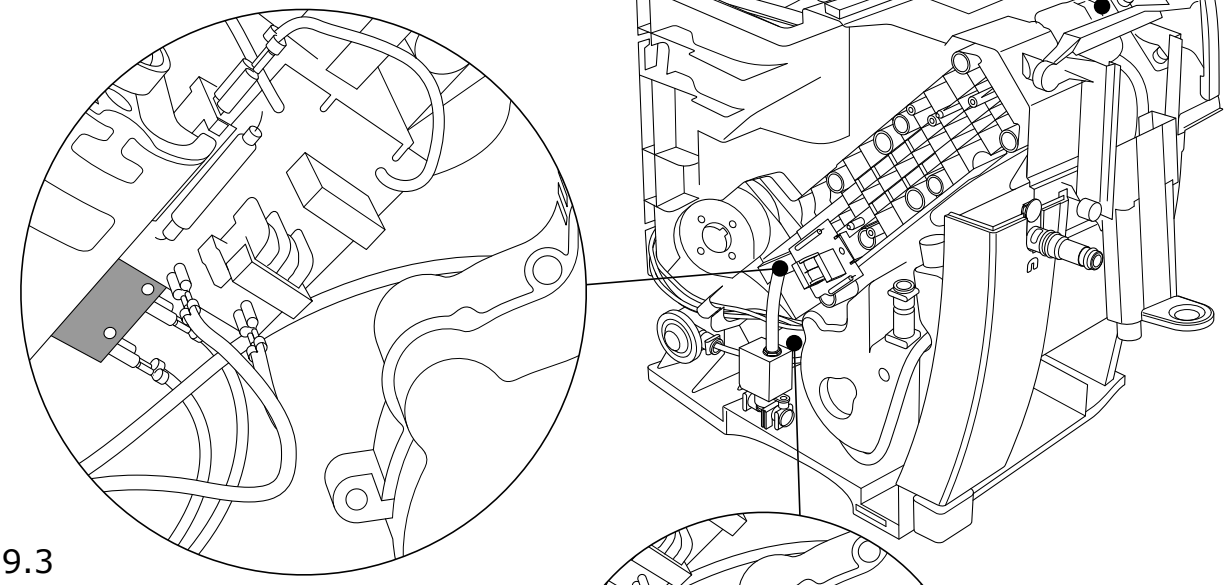
19.1
Water Tank microswitch



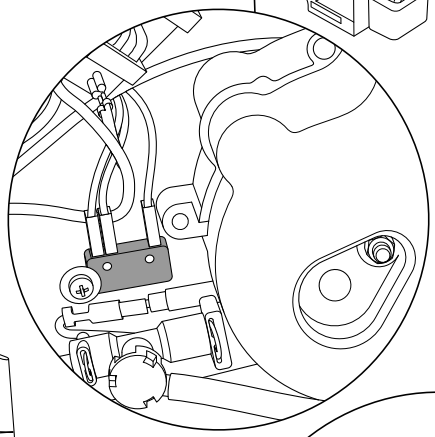


19.2
Infuser Upper Limit microswitch

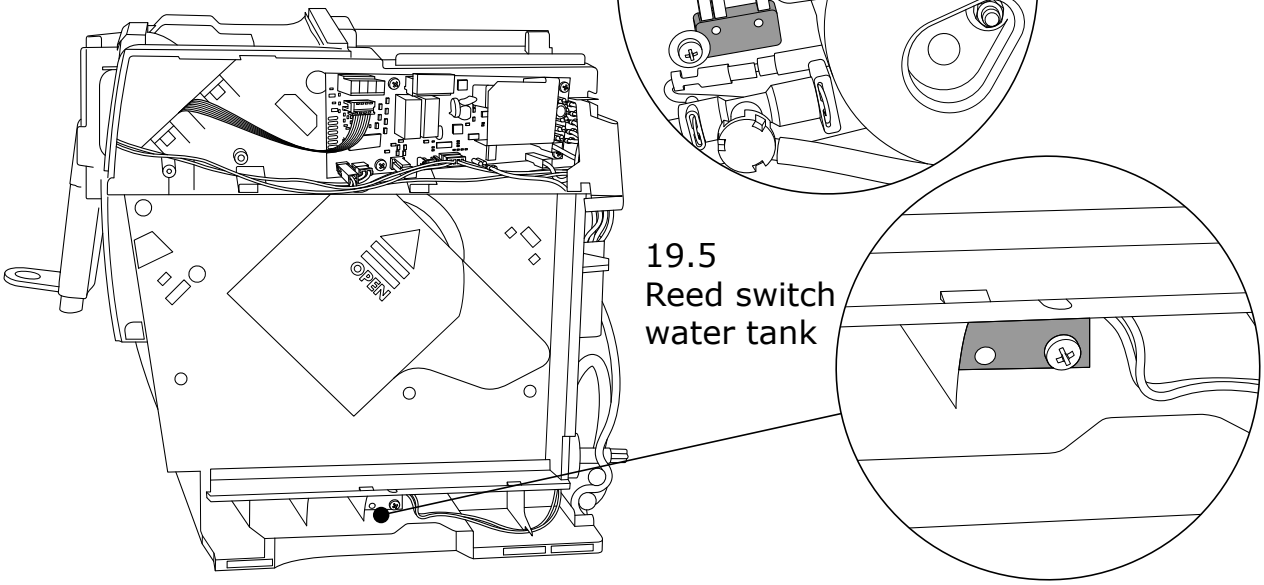
ATTENTION: Water Tank led, Waste container led and Steam tap led blink when micro are open



19.3
Infuser bottom limit microswitch

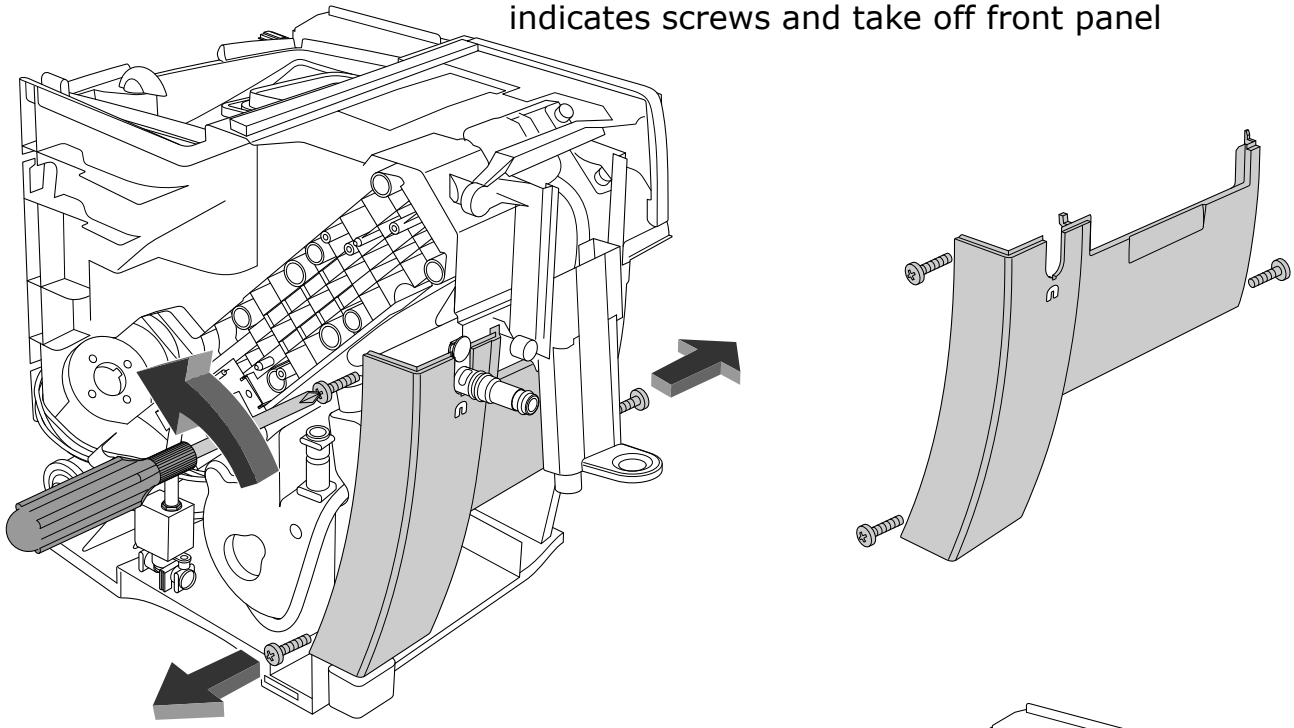


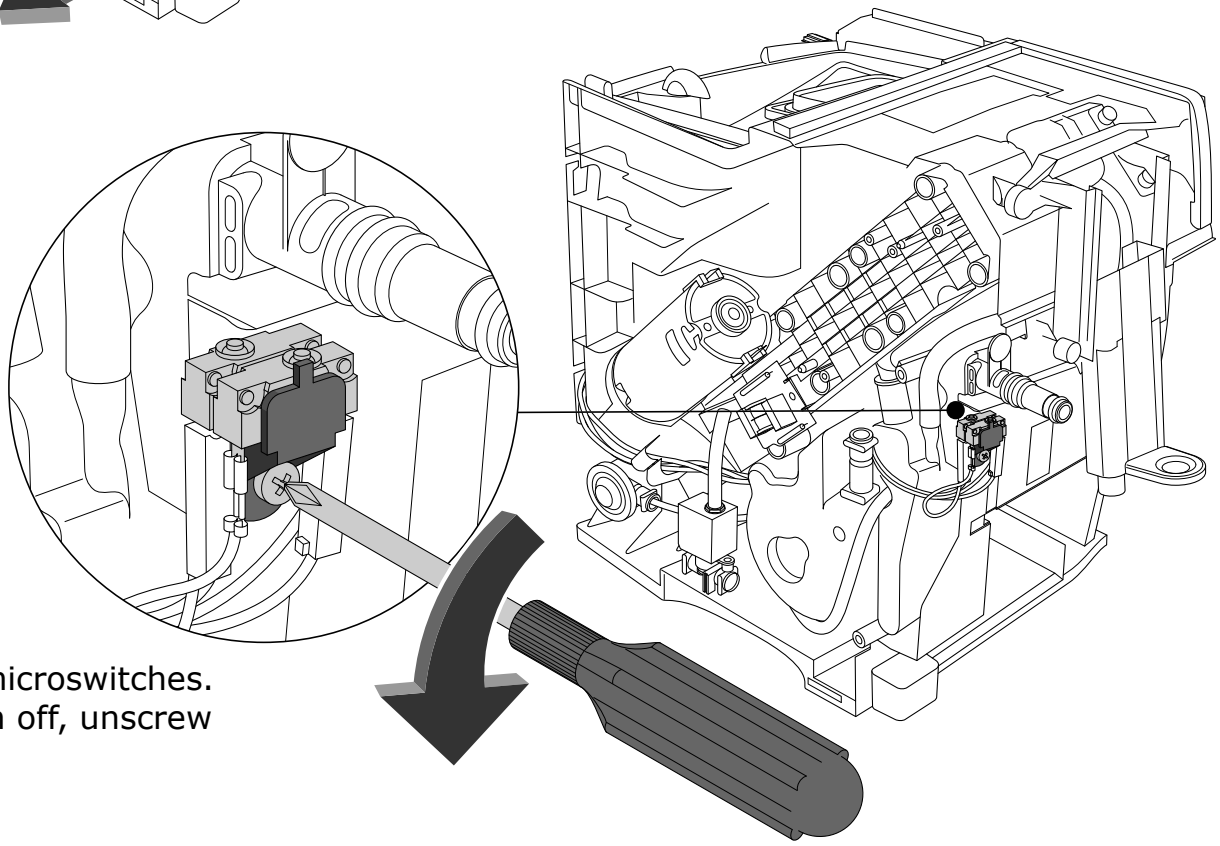
19.4
Waste container microswitch



19.5
Reed switch water tank

19.6
To get IFD device microswitch, unscrew the 3 indicates screws and take off front panel





19.7
IFD device microswitches.
To take them off, unscrew the screw

Picture 20 - **TO REMOVE IFD DEVICE**

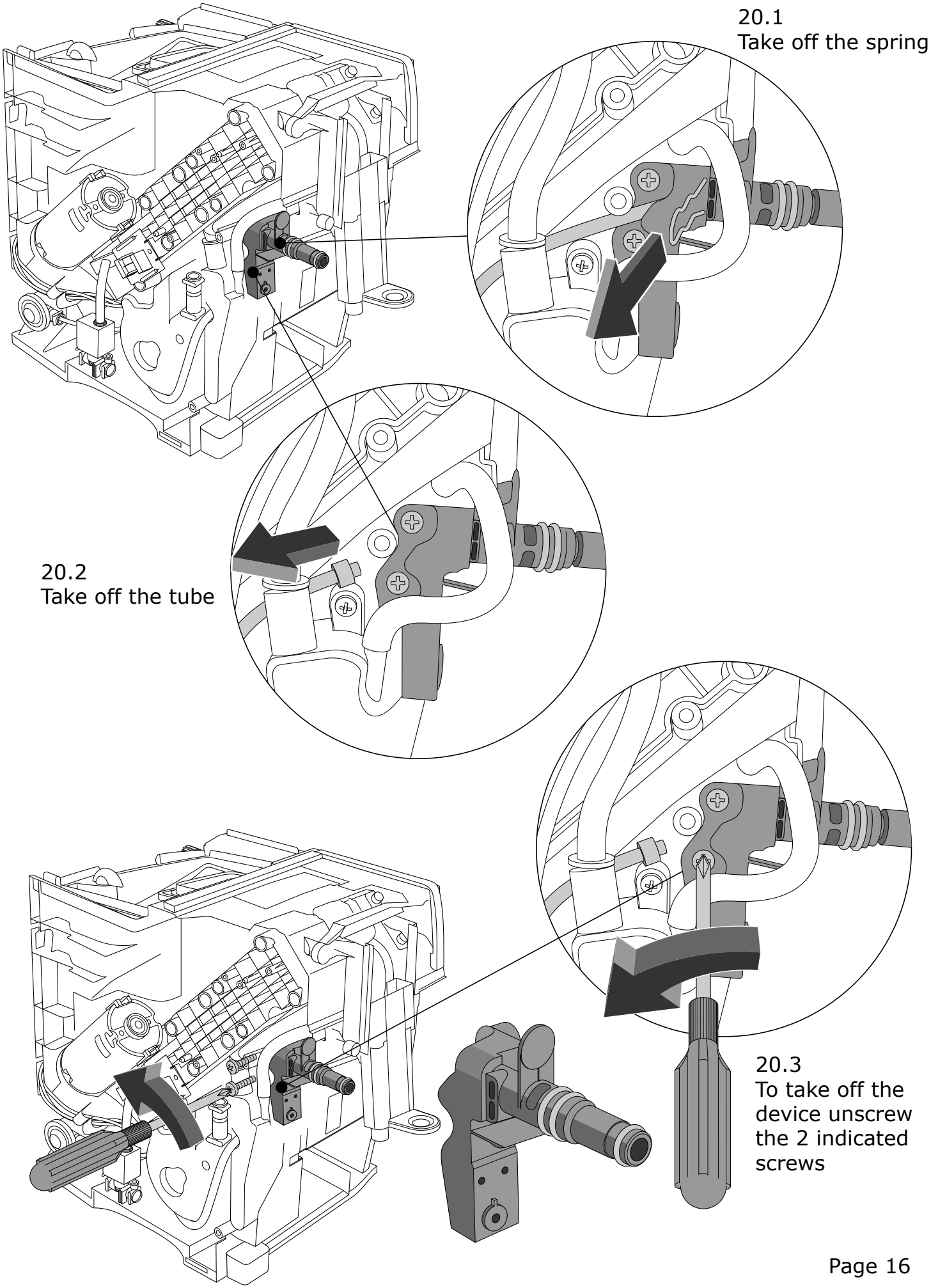
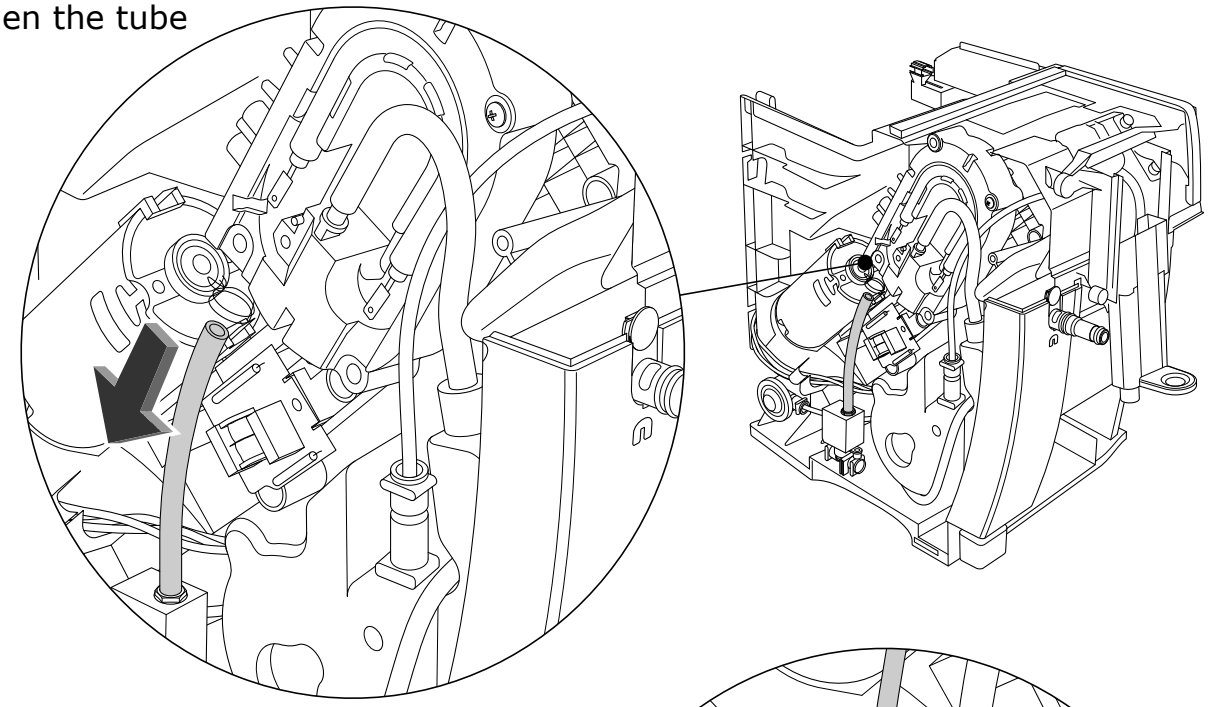
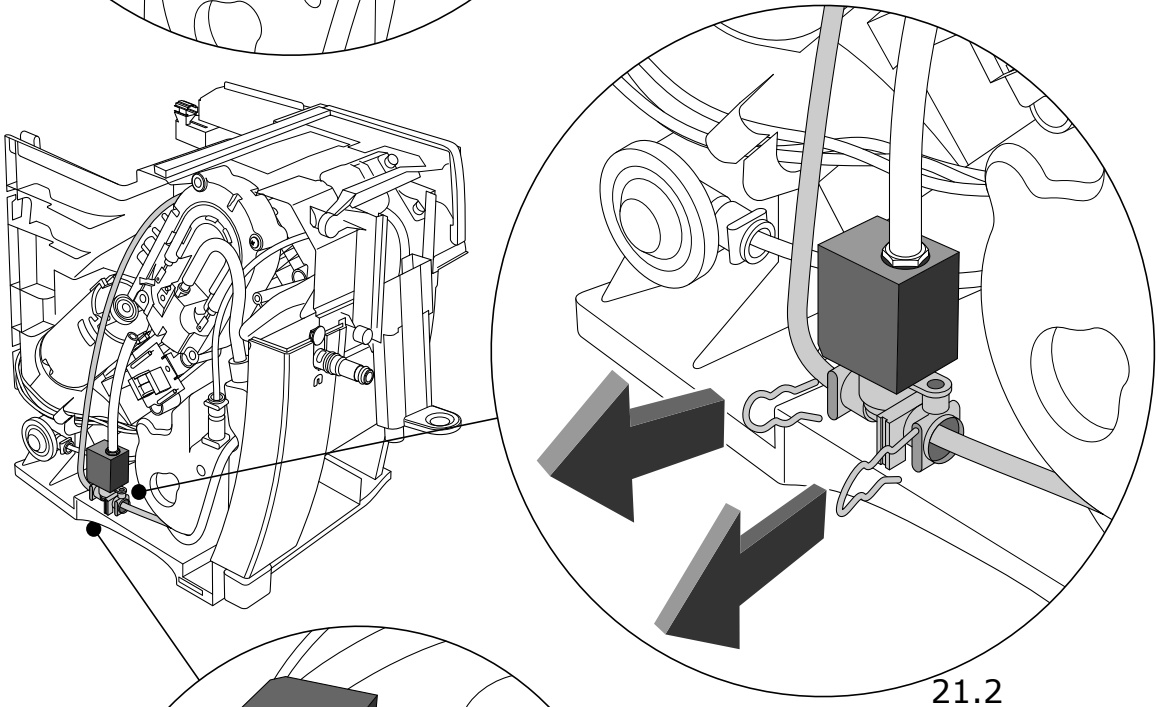


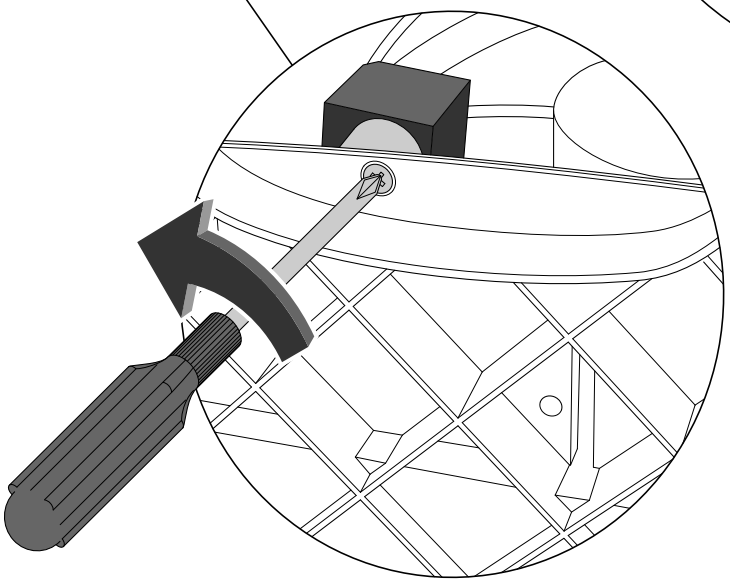
Figura 21 - **TO REMOVE ELECTROVALVE**

21.1
Take off the clamp
and then the tube





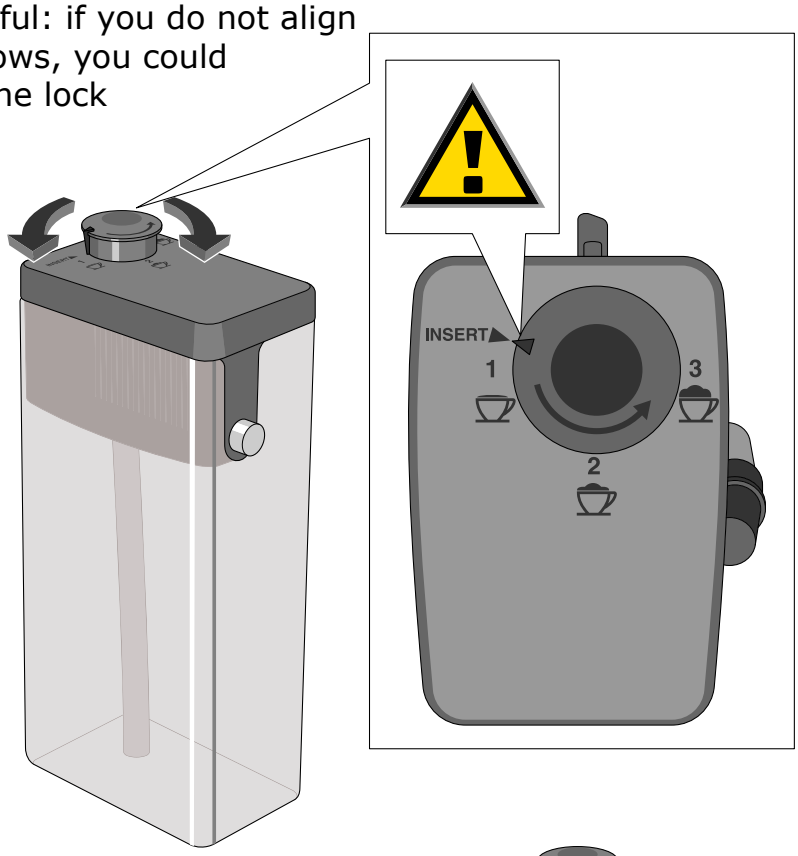
21.2
Take off the 2 springs
and the 2 tubes



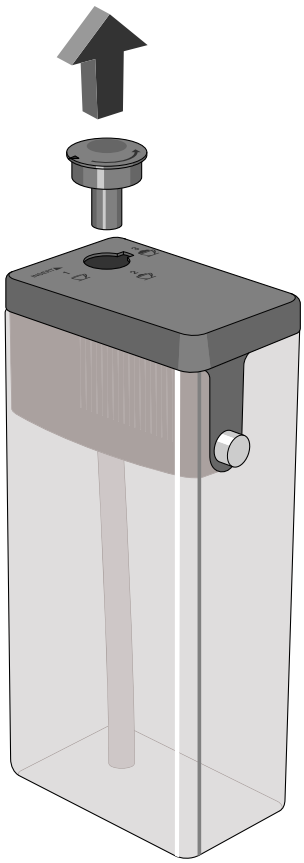
21.3
Unscrew the 2 screws which are
on bottom of the machine

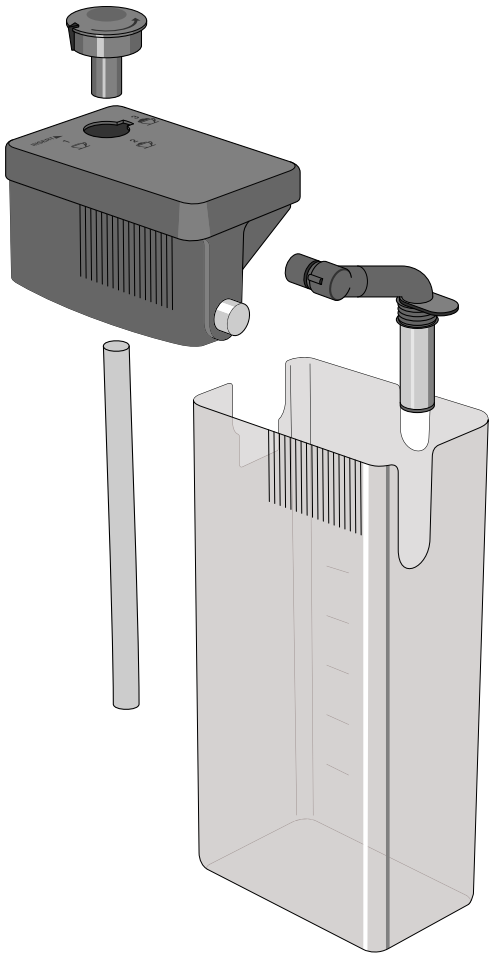
Picture 22 - **TO REMOVE CARAFE**

22.1
ATTENTION:
To take off the regulation knobe
rotate it up to the indicated position
(the 2 arrows are aligned)
Be careful: if you do not align
the arrows, you could
break the lock



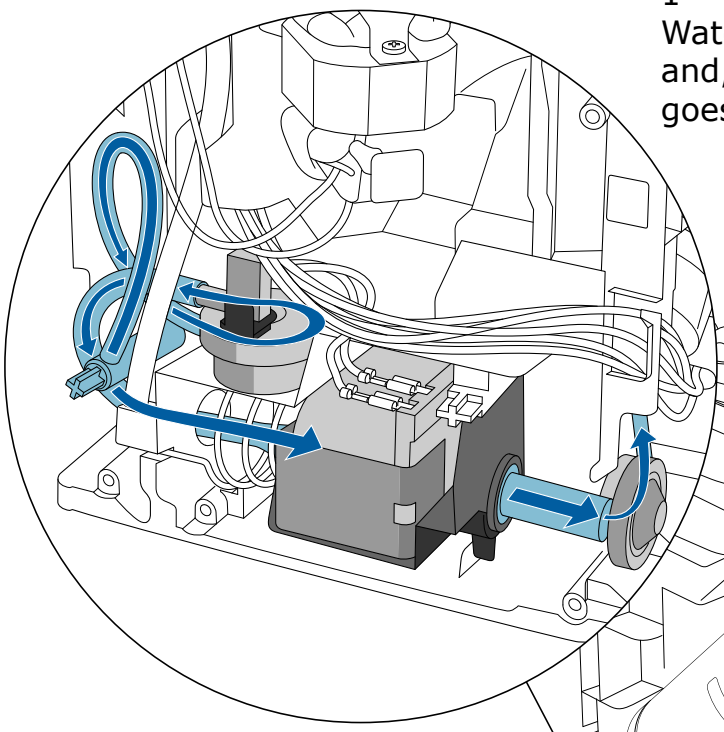
22.2
Take off the knob

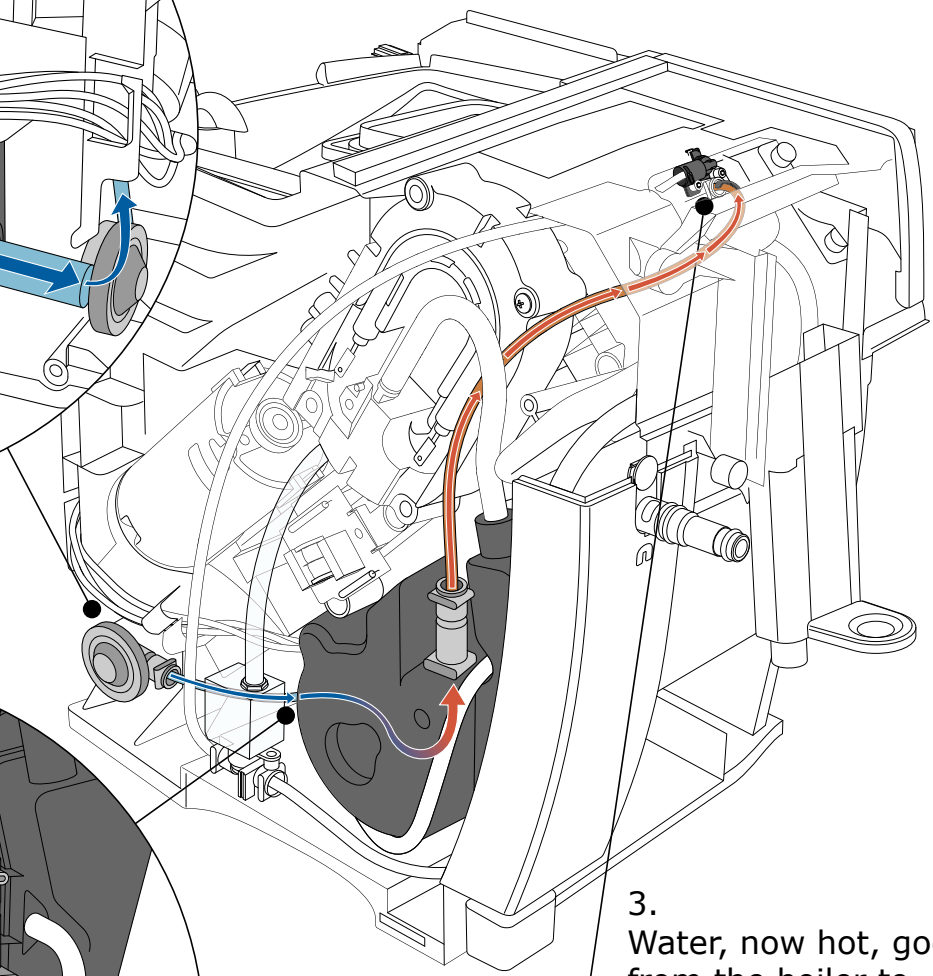


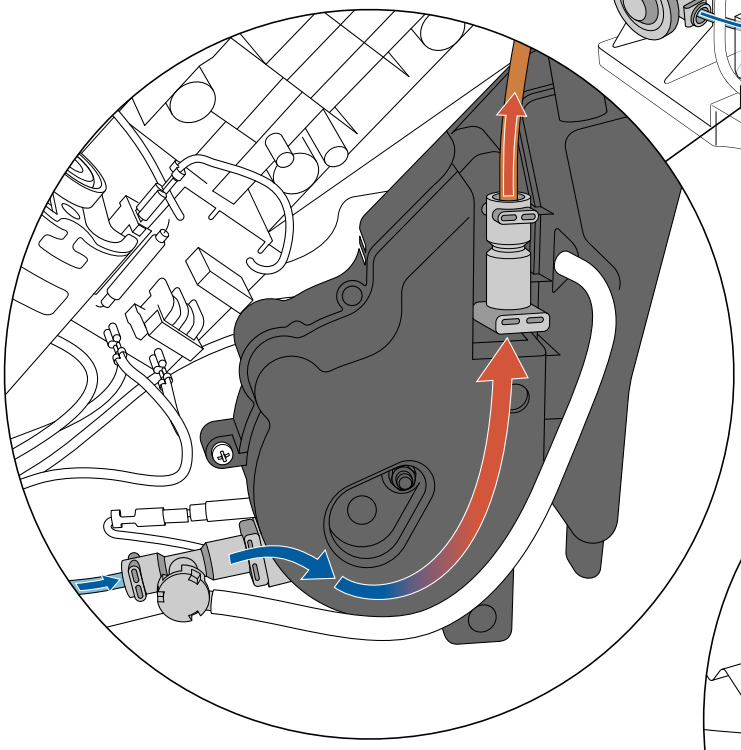


WATER CIRCUIT COFFEE

1
Water comes from tank and, through flowmeter, goes to the pump.

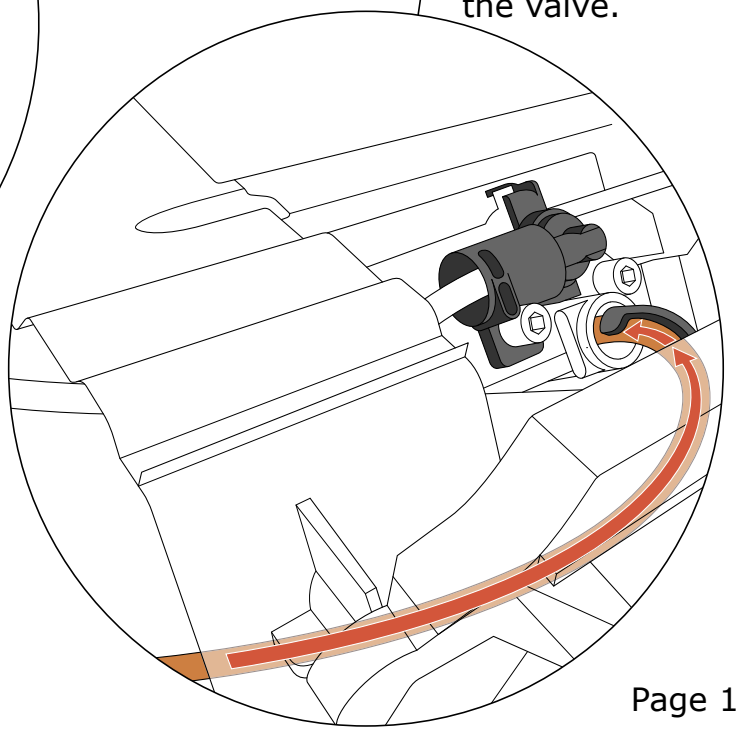






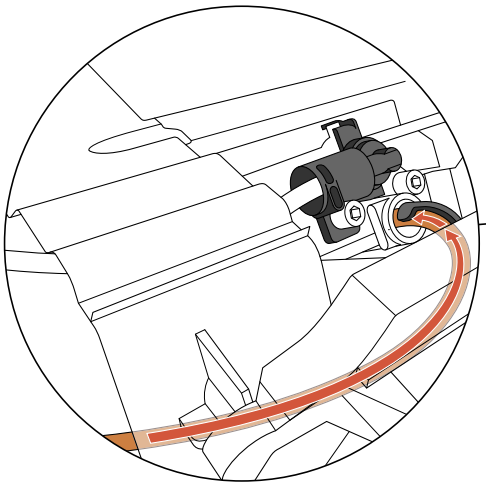
2.
From the pump, water gets into the boiler

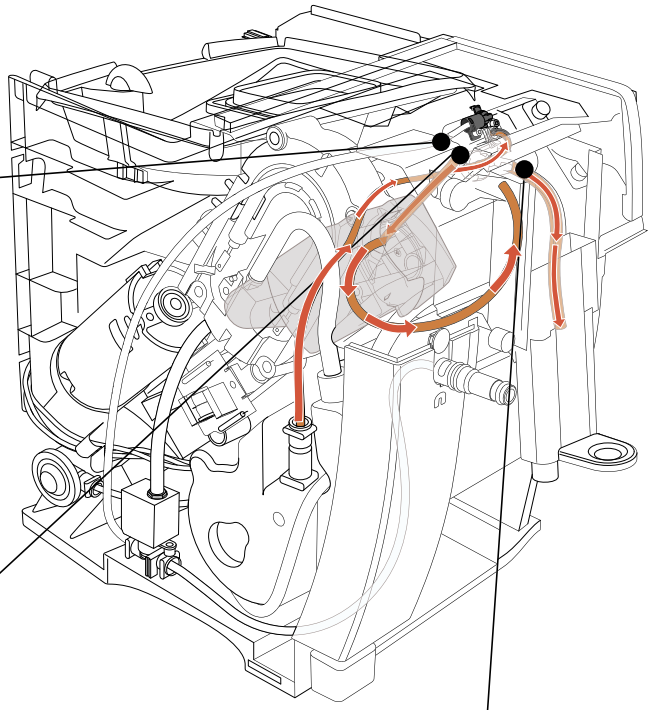
3.
Water, now hot, goes from the boiler to the valve.



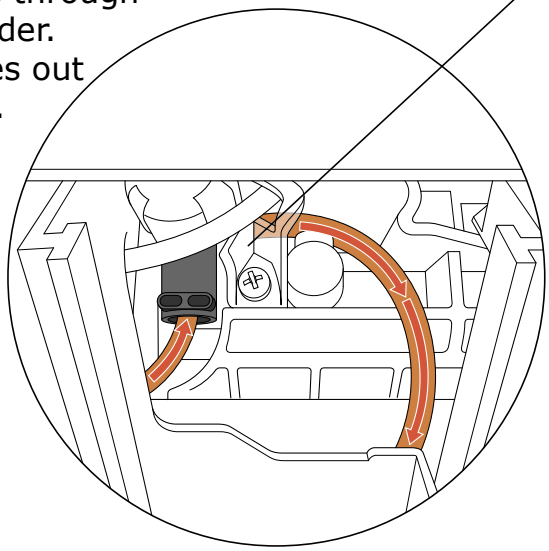
WATER CIRCUIT COFFEE

4
Hot water gets into valve

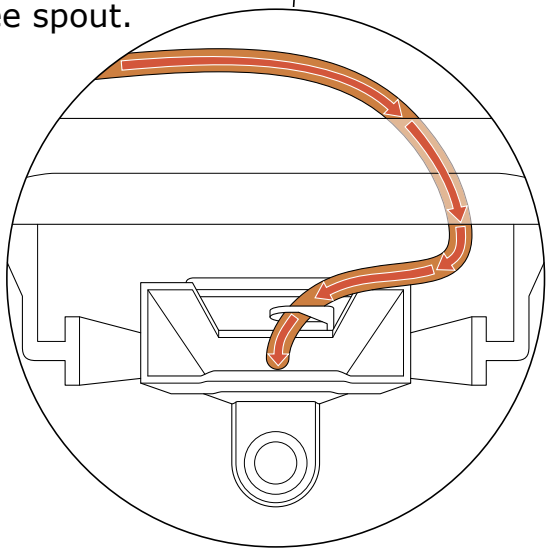




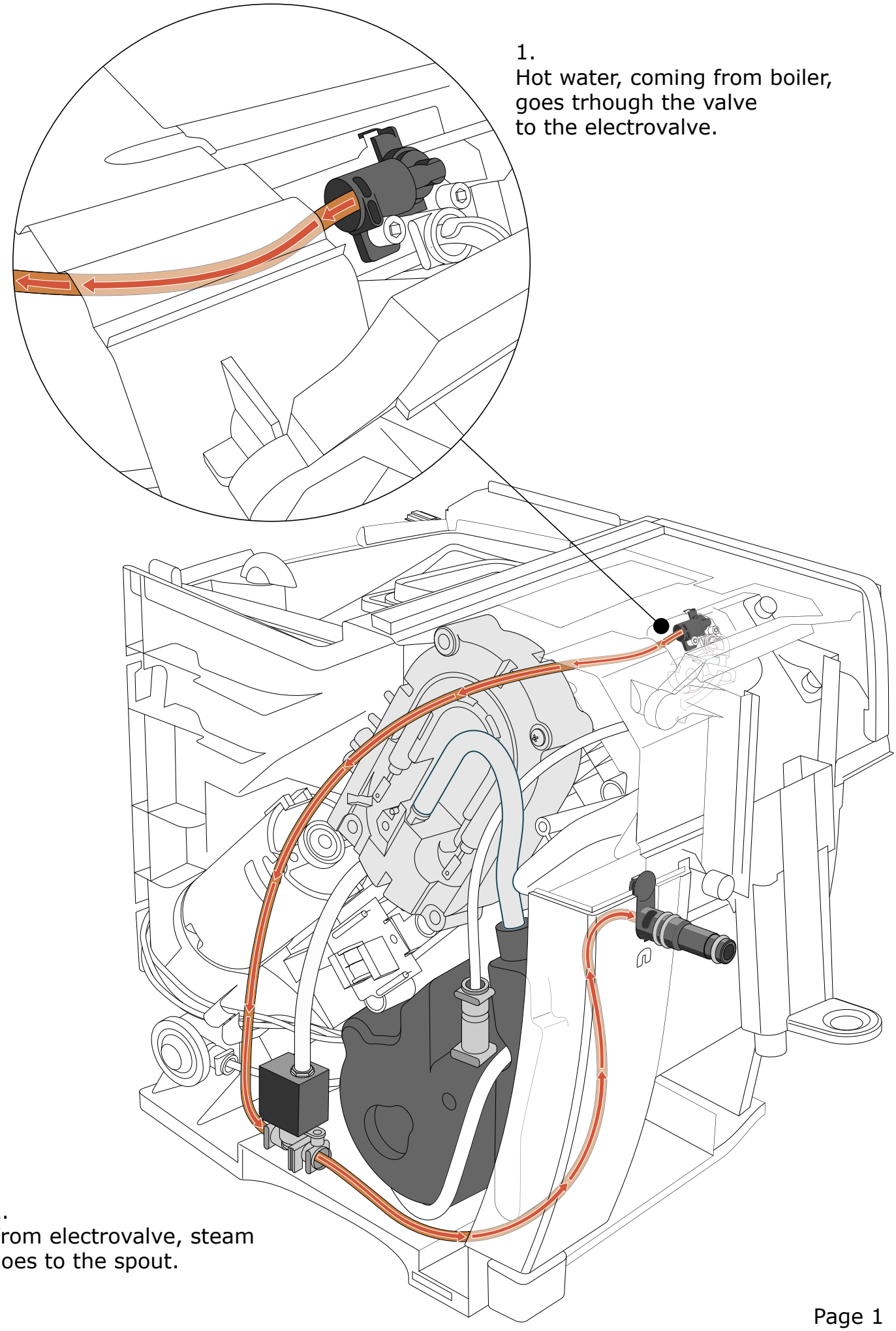
5.
From the valve, hot water goes into the infuser and passes through coffee powder.
Coffe comes out from valve.



6.
Coffee flows to the coffee spout.



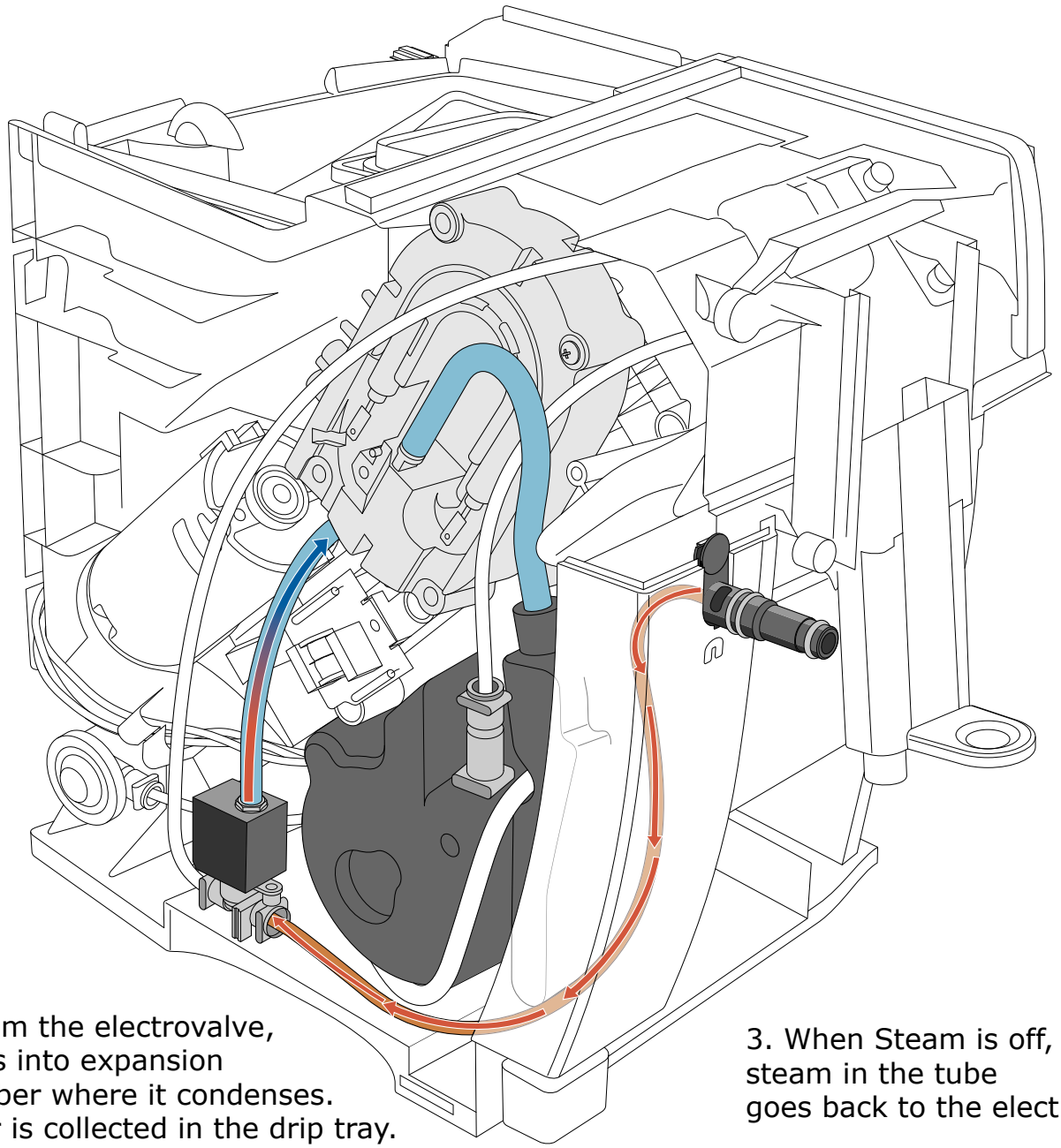
WATER CIRCUIT STEAM



1.
Hot water, coming from boiler, goes trhough the valve to the electrovalve.

2.
From electrovalve, steam goes to the spout.

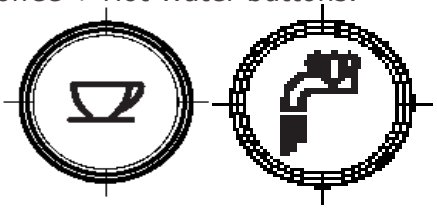
WATER CIRCUIT STEAM



4. From the electrovalve, it gets into expansion chamber where it condenses. Water is collected in the drip tray.

3. When Steam is off, steam in the tube goes back to the electrovalve.

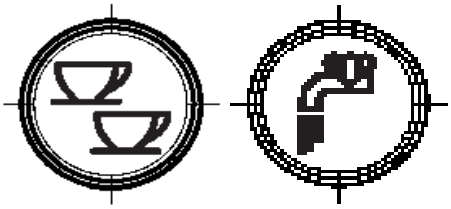
TEST PROCEDURE FOR
ECAM23.450 INTENSA IFD

TEST PROCEDURE	Pressing each icon below, we can manually check the devices:	
	icon	device
Put On /off switch on 0. Plug the machine ON. Press and hold: 1 Coffee + Hot Water buttons.  Press ON/OFF switch (pos. I)		EV1
		Boiler ON
		Grinder ON
		EV1
		Motor UP, till "UPPER LIMIT Motor DOWN, till "BOTTOM LIMIT
		Water Pump ON
NOTE: Release bttons when motor starts moving.		

NOTE: Every led sound when the microswitch is open

To EXIT the procedure, press On/Off Swicth (position 0) or unplug the machine.

DISPLAY TEST PROCEDURE FOR **ECAM23.450** INTENSA IFD

DISPLAY TEST PROCEDURE	Pressing each icon the display will show following message	
	icon	message
Put ON/OFF switch on 0. Plug the machine ON. Press and hold: 1 Coffee + Hot Water buttons.  Press On/Off Switch (position I)		BUTTON 1
		BUTTON 2
		BUTTON 3
		BUTTON 4
		BUTTON 5
		BUTTON 6
		BUTTON 7
		BUTTON 8
Note: Release buttons after you read the message "DISPLAY TEST MODE".	Turning the knob, the display will show the bar increasing or decreasing.	

NOTE: After display Test performing, you need to intialize the machine.

To EXIT the procedure, press On/Off Swicth (position 0) or unplug the machine.
Test procedure ends automatically 1 minute after you complete it.

ACCESSIBILITA’

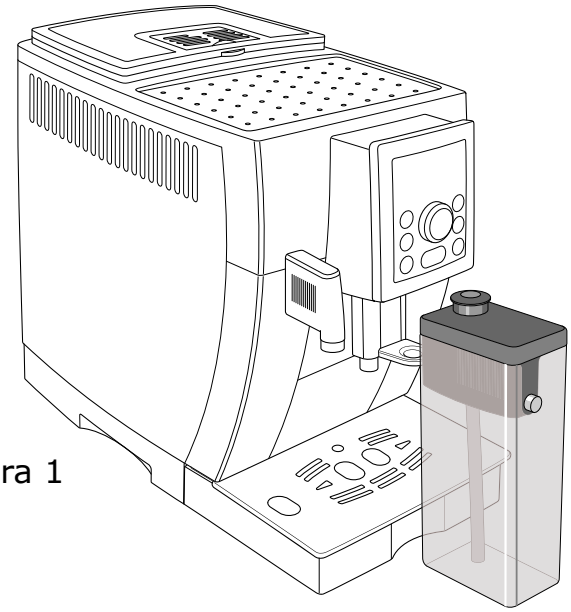
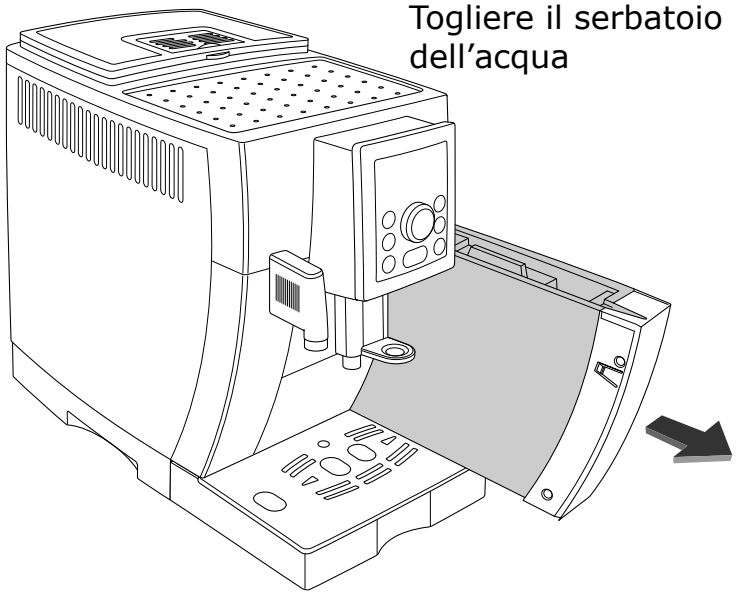


Figura 1

Figura 2.
Togliere il serbatoio dell’acqua



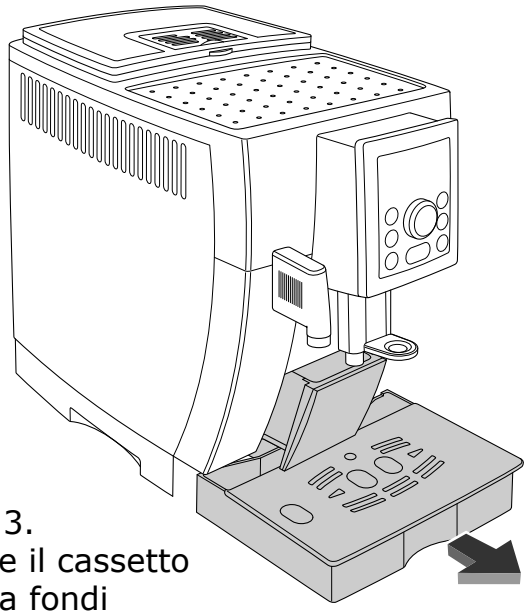


Figura 3.
Togliere il cassetto raccolta fondi

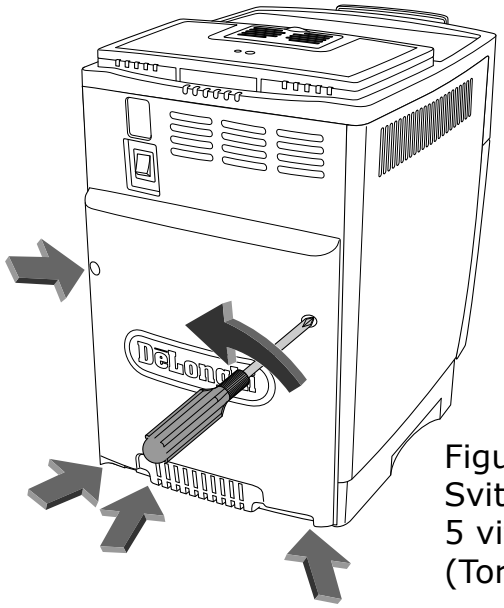
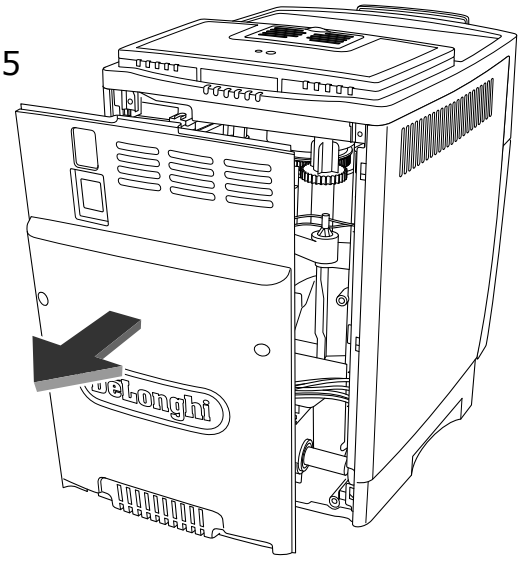
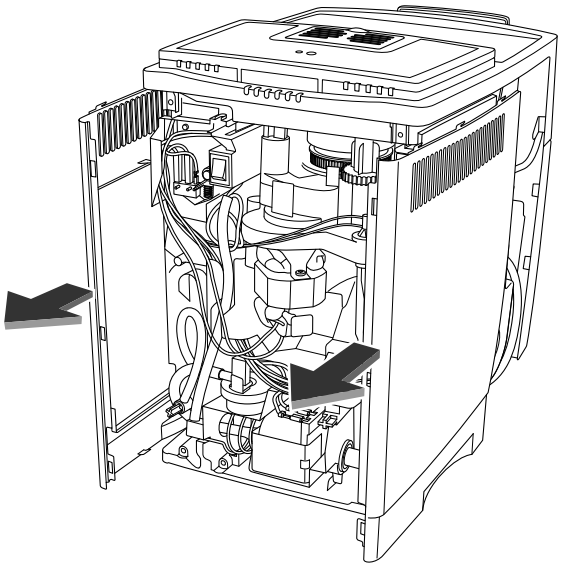


Figura 4.
Svitare le 5 viti indicate (Torx T20)

Figura 5

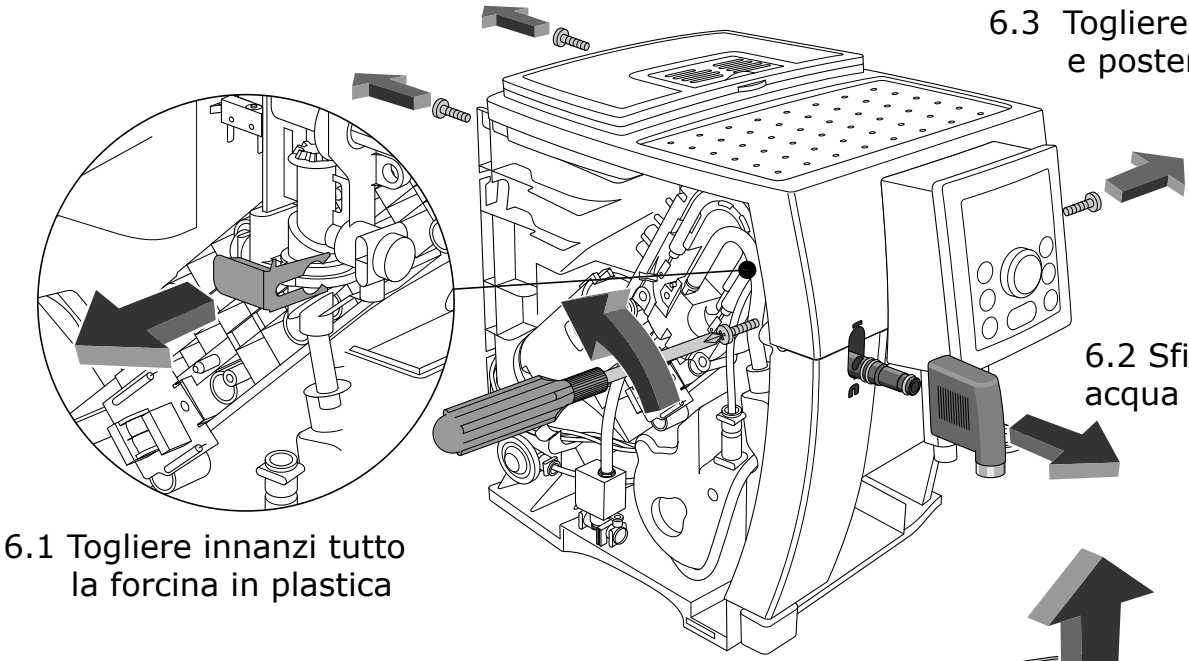


5.1 Sfilare lo schienale



5.2 Sganciare i fianchi

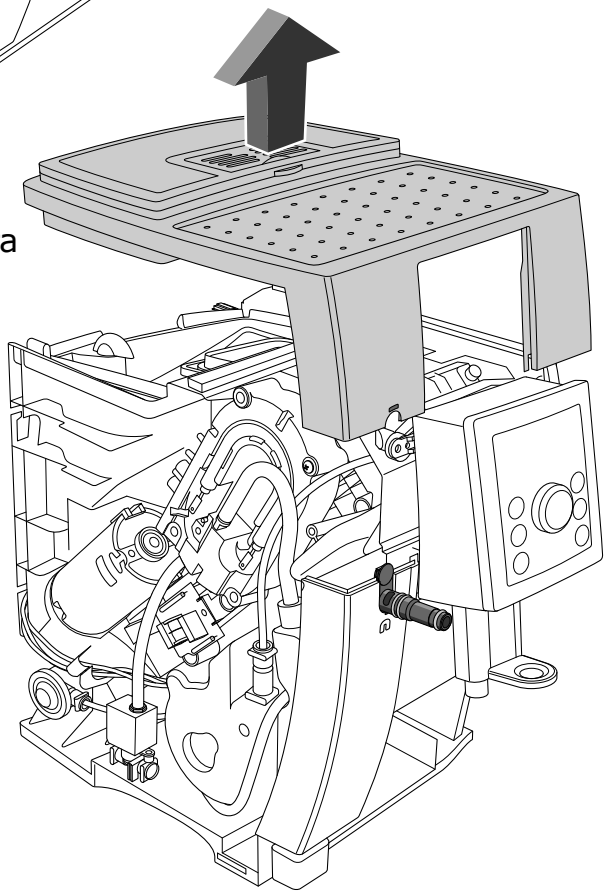
Figura 6 - **SMONTAGGIO CRUSCOTTO**



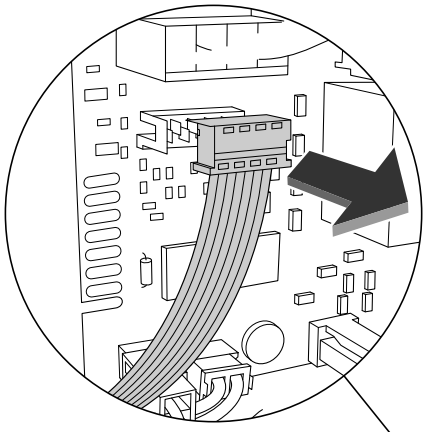
6.3 Togliere le viti laterali e posteriori (2+2)

6.2 Sfilare la pipetta acqua calda

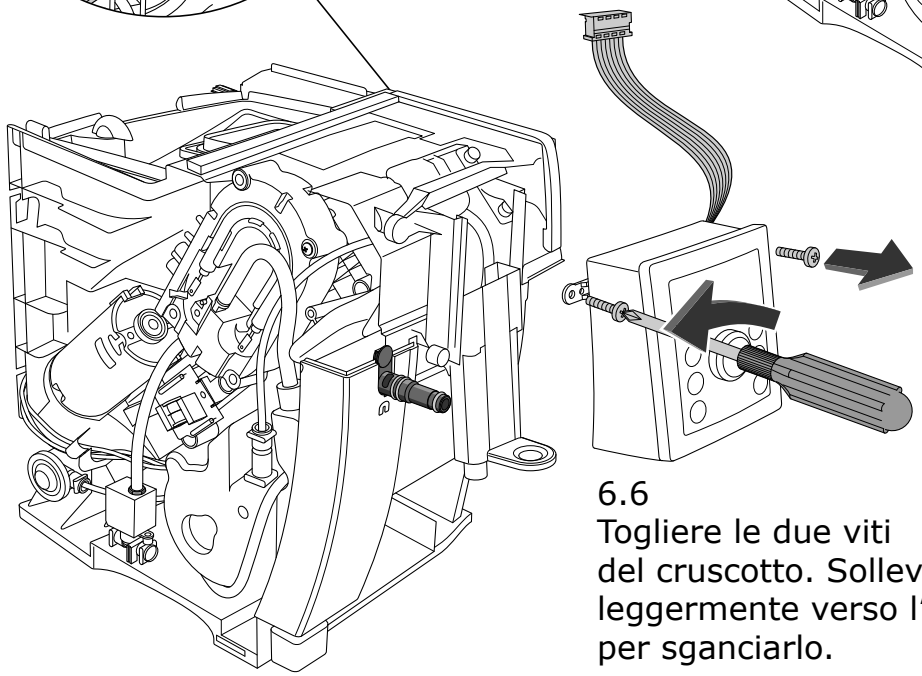
6.1 Togliere innanzi tutto la forcina in plastica



6.4 Sfilare la copertura superiore



6.5 Sganciare la piattella

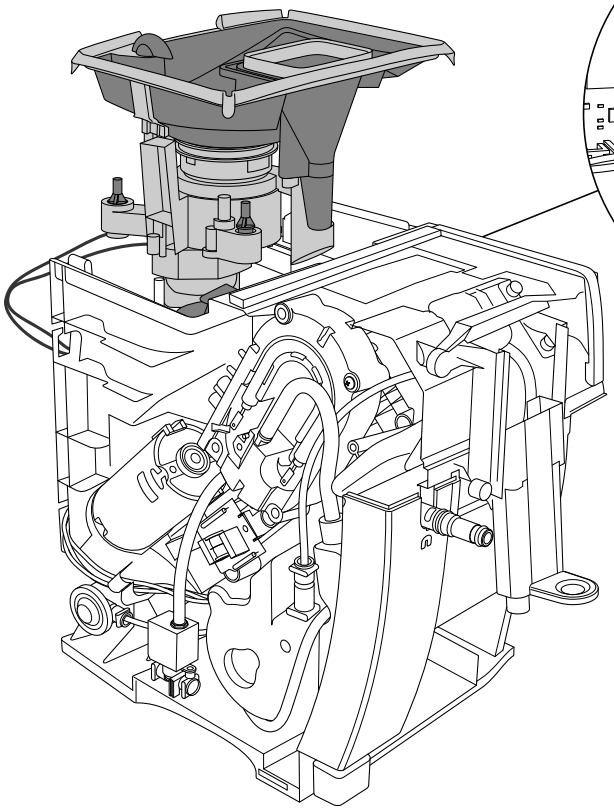


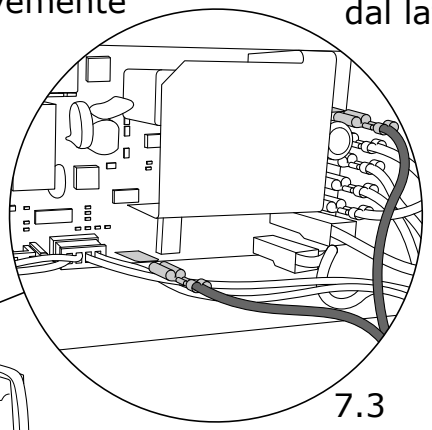
6.6 Togliere le due viti del cruscotto. Sollevare leggermente verso l'alto per sganciarlo.

Figura 7 - **SMONTAGGIO MACININO**

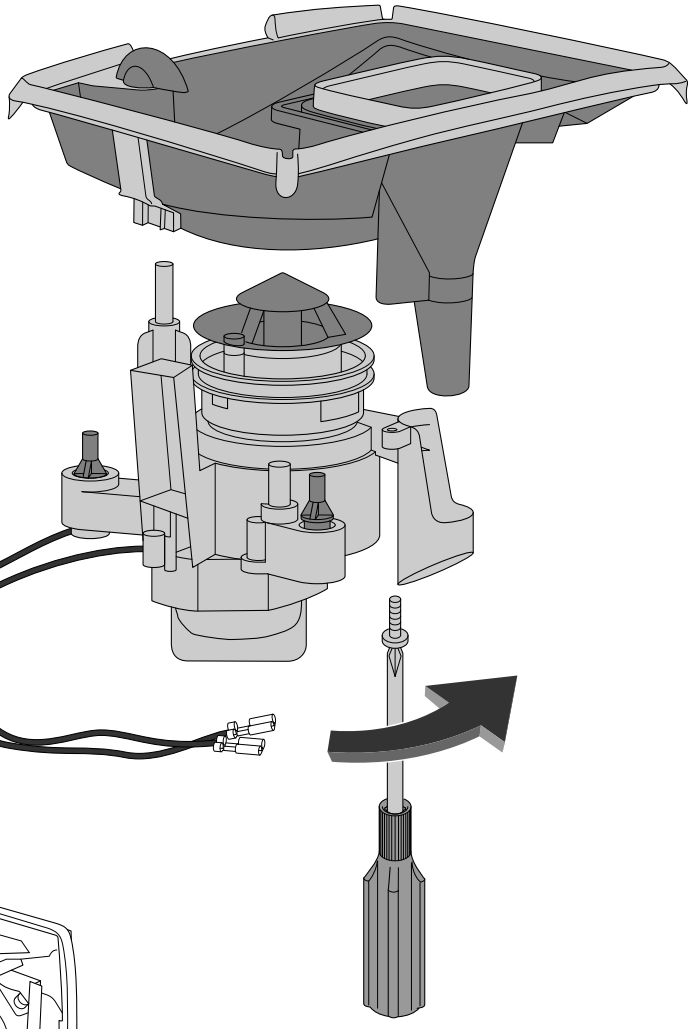
7.2
Sollevare il macinino spostandolo lievemente verso la parte posteriore

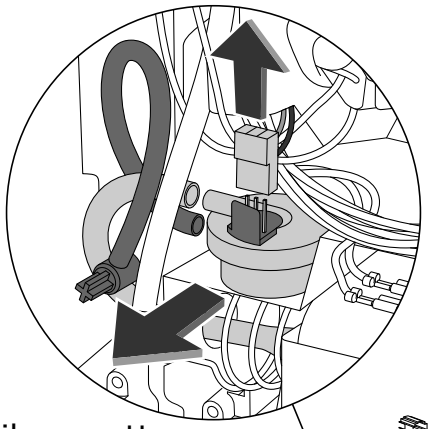
7.1
Sganciare i cavetti del motore dal lato destro della scheda





7.3
Per disassemblare il macinino togliere la vite indicata





8.1
Sfilare il connettore ed estrarre verso l'esterno il flussimetro

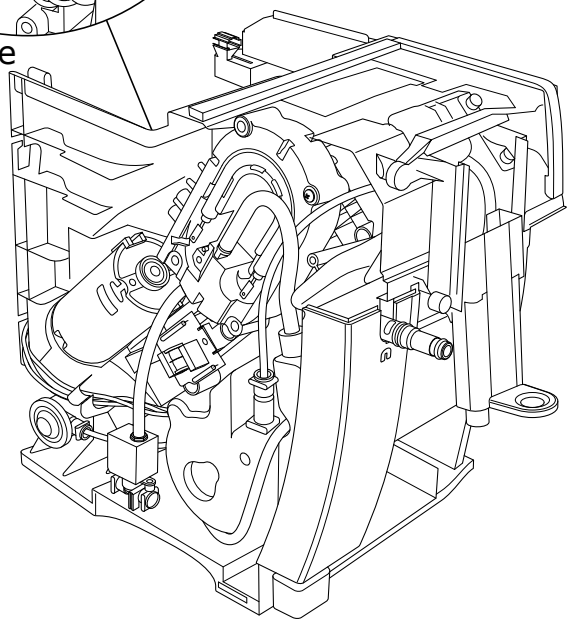
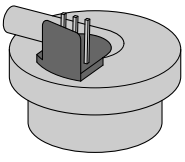
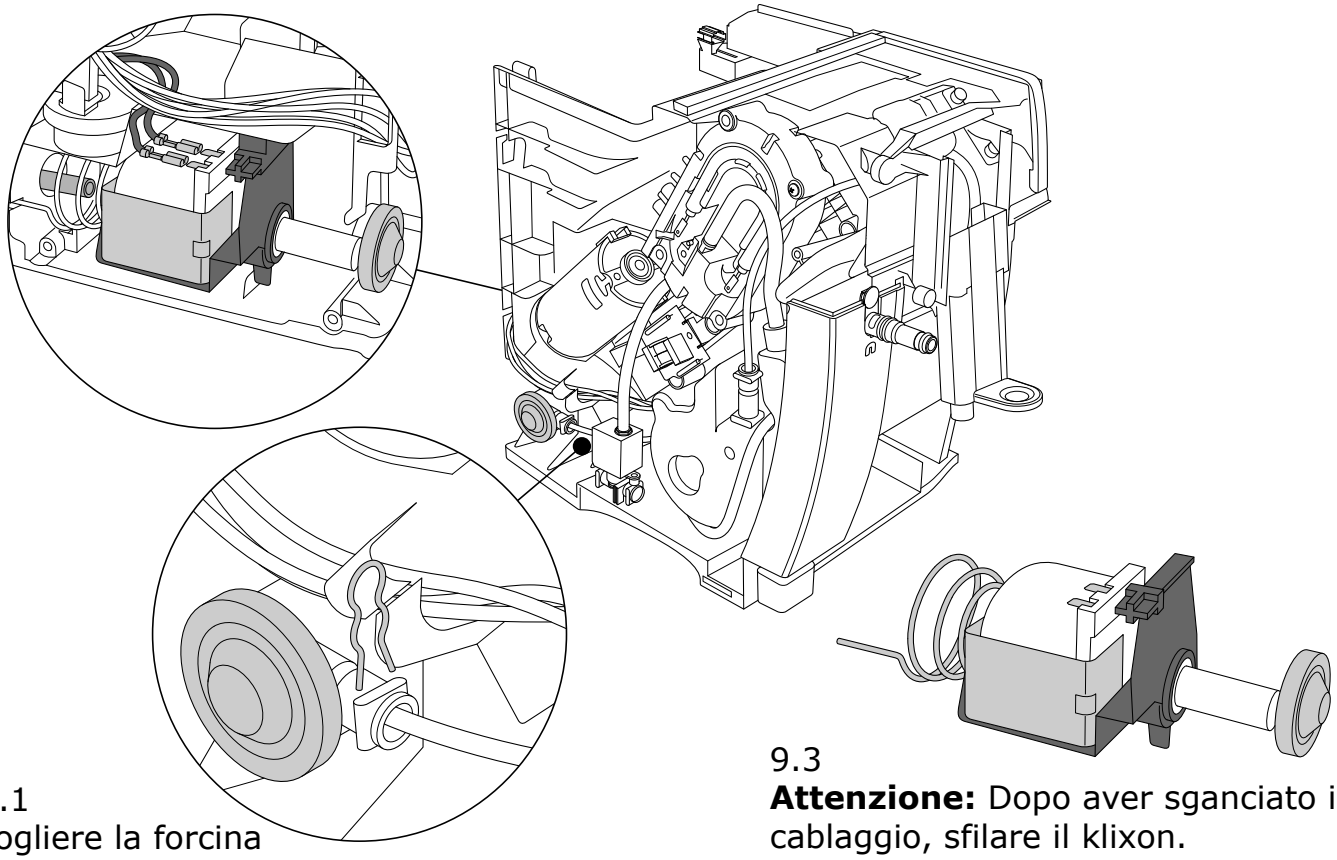


Figura 8 - **SMONTAGGIO FLUSSIMETRO**



9.2
Sfilare la pompa

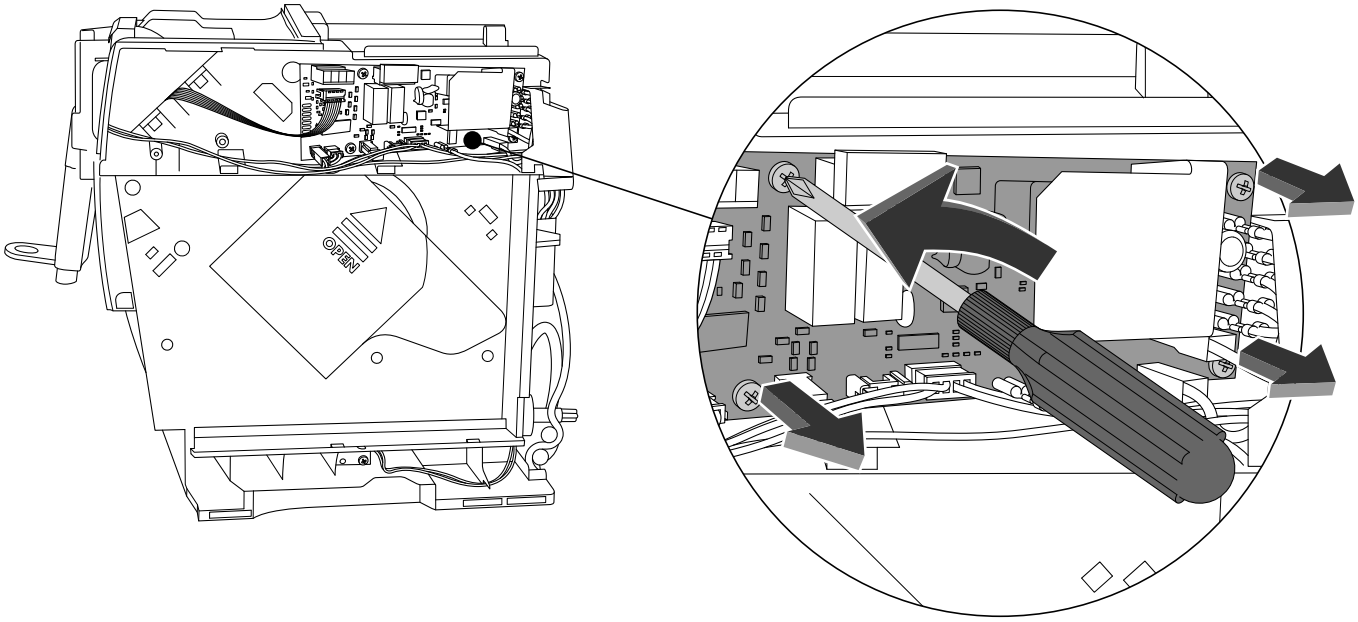
Figura 9 - **SMONTAGGIO POMPA**



9.1
Togliere la forcina
di aggancio e quindi sfilare il tubo.
Attenzione: dal tubo potrebbe uscire una piccola quantità, in quanto il circuito idraulico si svuota

9.3
Attenzione: Dopo aver sganciato il cablaggio, sfilare il klixon.
Essendo incollato, esercitare una certa forza. Ricordarsi di incollarlo nuovamente.

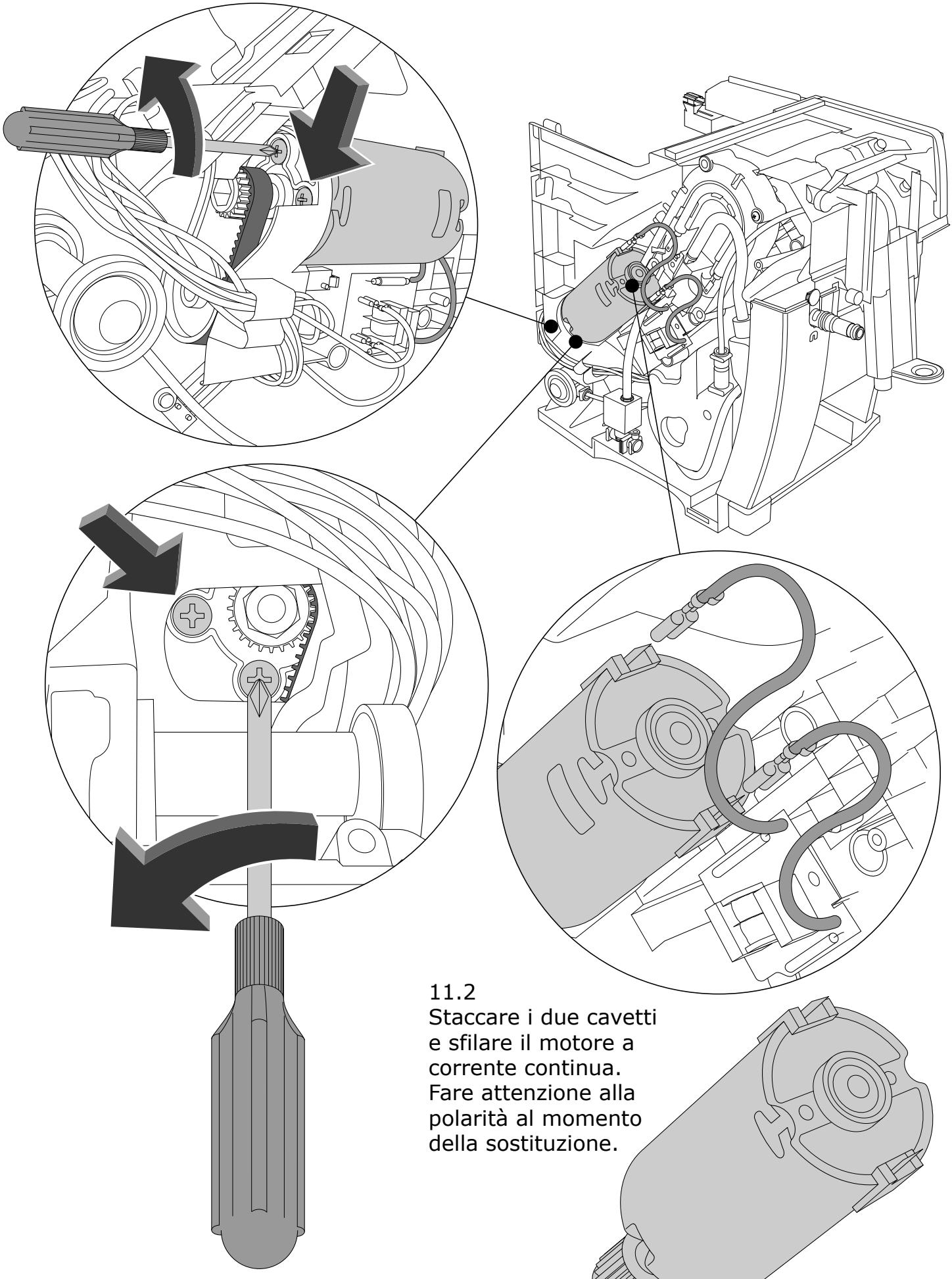
Figura 10 - **SMONTAGGIO SCHEDA**



10.1
Togliere le quattro viti indicate. Dopo aver staccato i cablaggi, sfilare la scheda.

Figura 11 - **SMONTAGGIO MOTORE**

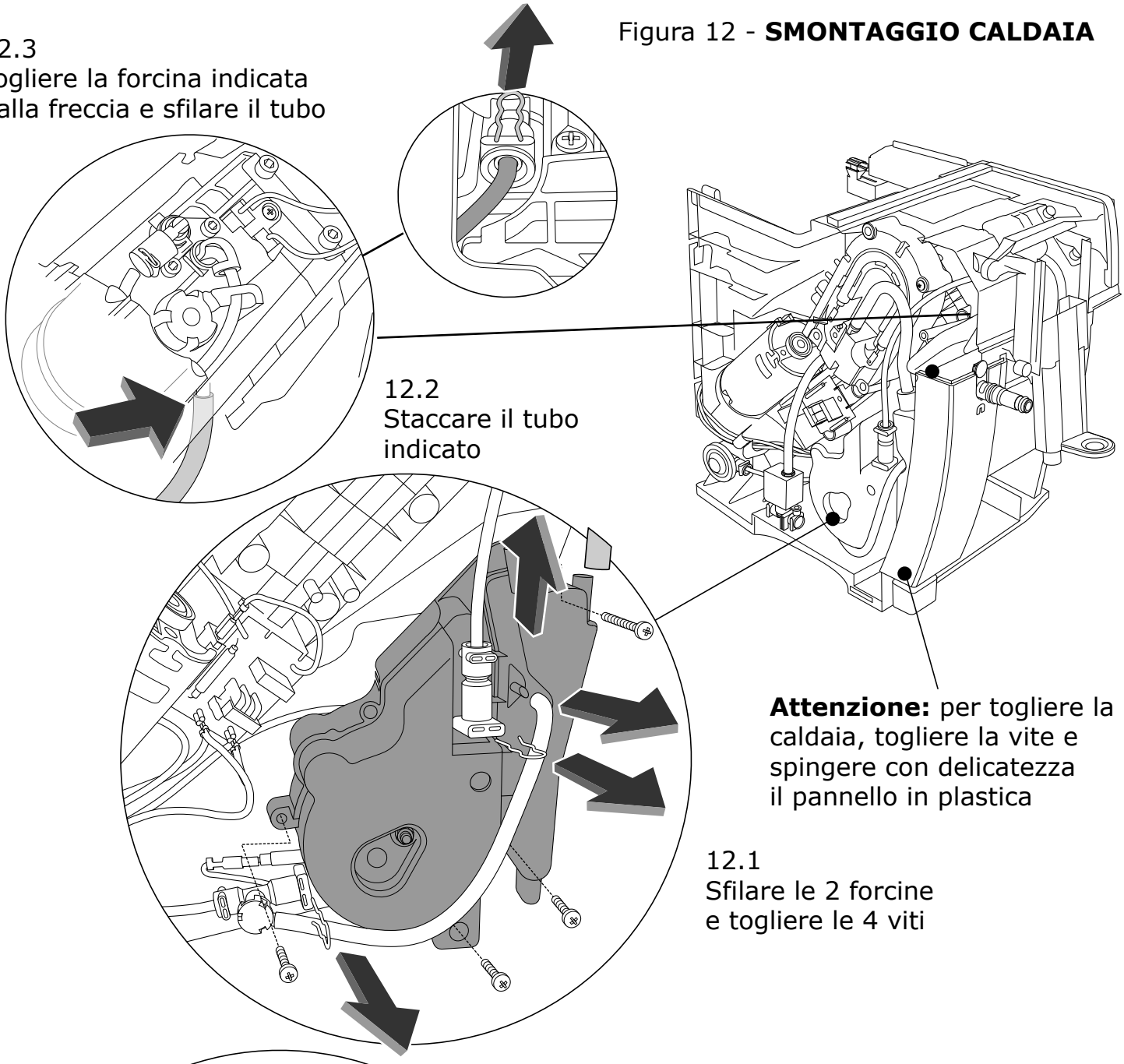
11.1
Togliere le quattro viti di fissaggio del motore raggiungibili dalla parte posteriore



11.2
Staccare i due cavetti e sfilare il motore a corrente continua. Fare attenzione alla polarità al momento della sostituzione.

Figura 12 - **SMONTAGGIO CALDAIA**

12.3
Togliere la forcina indicata dalla freccia e sfilare il tubo



12.2
Staccare il tubo indicato

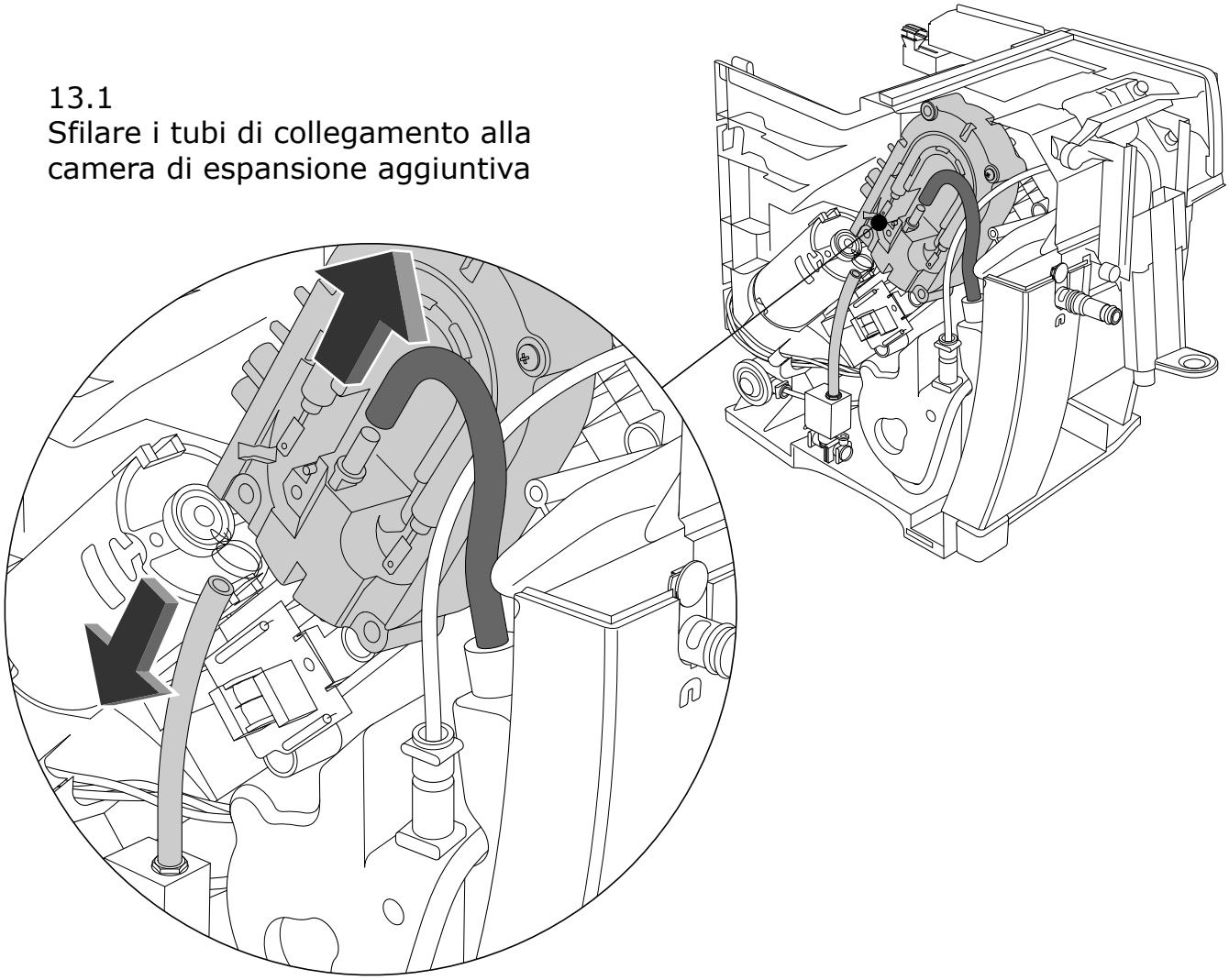
Attenzione: per togliere la caldaia, togliere la vite e spingere con delicatezza il pannello in plastica

12.1
Sfilare le 2 forcine e togliere le 4 viti

12.4
Una volta tolta la chiusura, svitare le viti indicate per estrarre la caldaia

Figura 13 - **SMONTAGGIO CAMERA DI ESPANSIONE AGGIUNTIVA**

13.1
Sfilare i tubi di collegamento alla camera di espansione aggiuntiva



13.2
Togliere le 2 viti di fissaggio

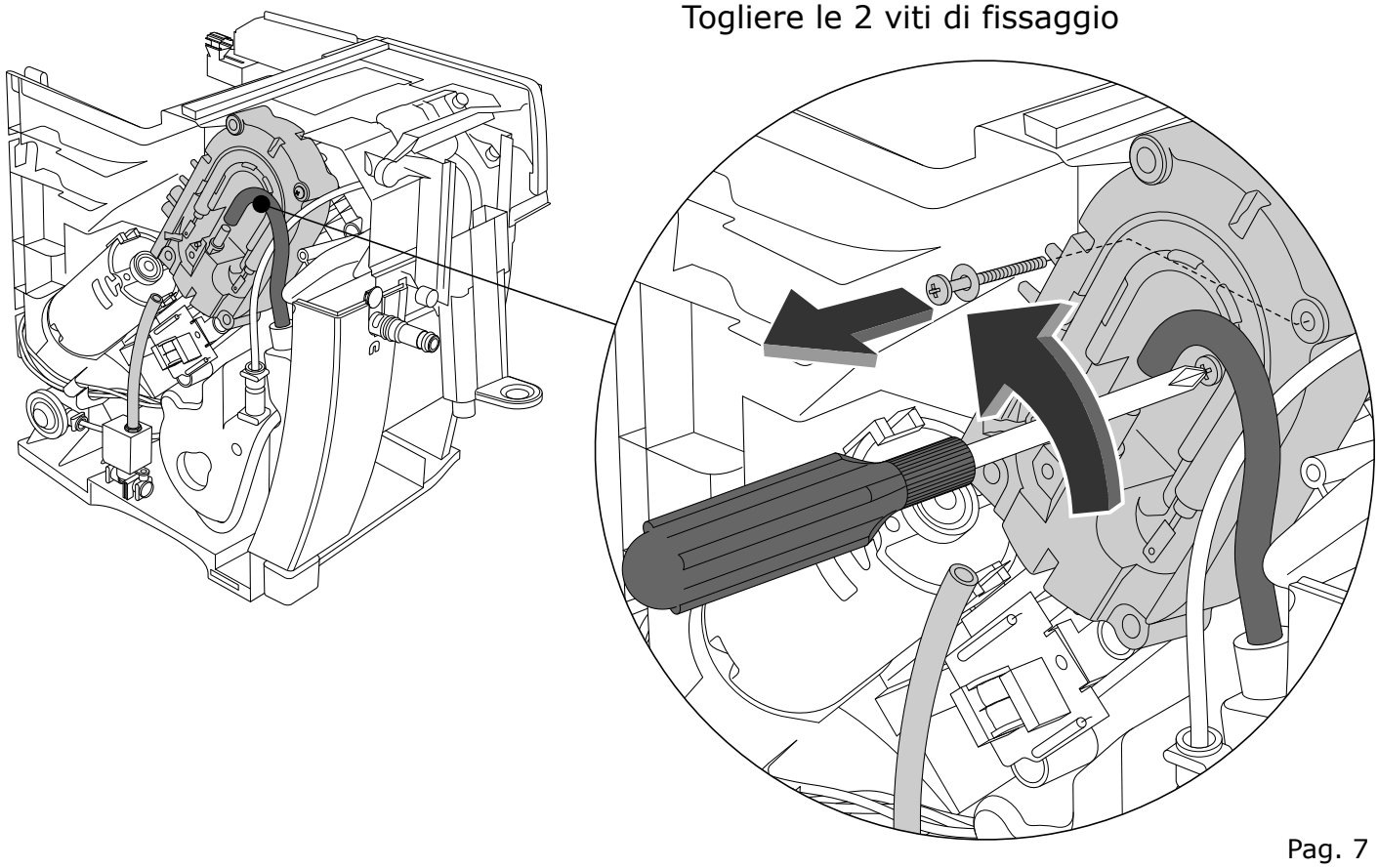


Figura 14 - **ESTRAZIONE INFUSORE**

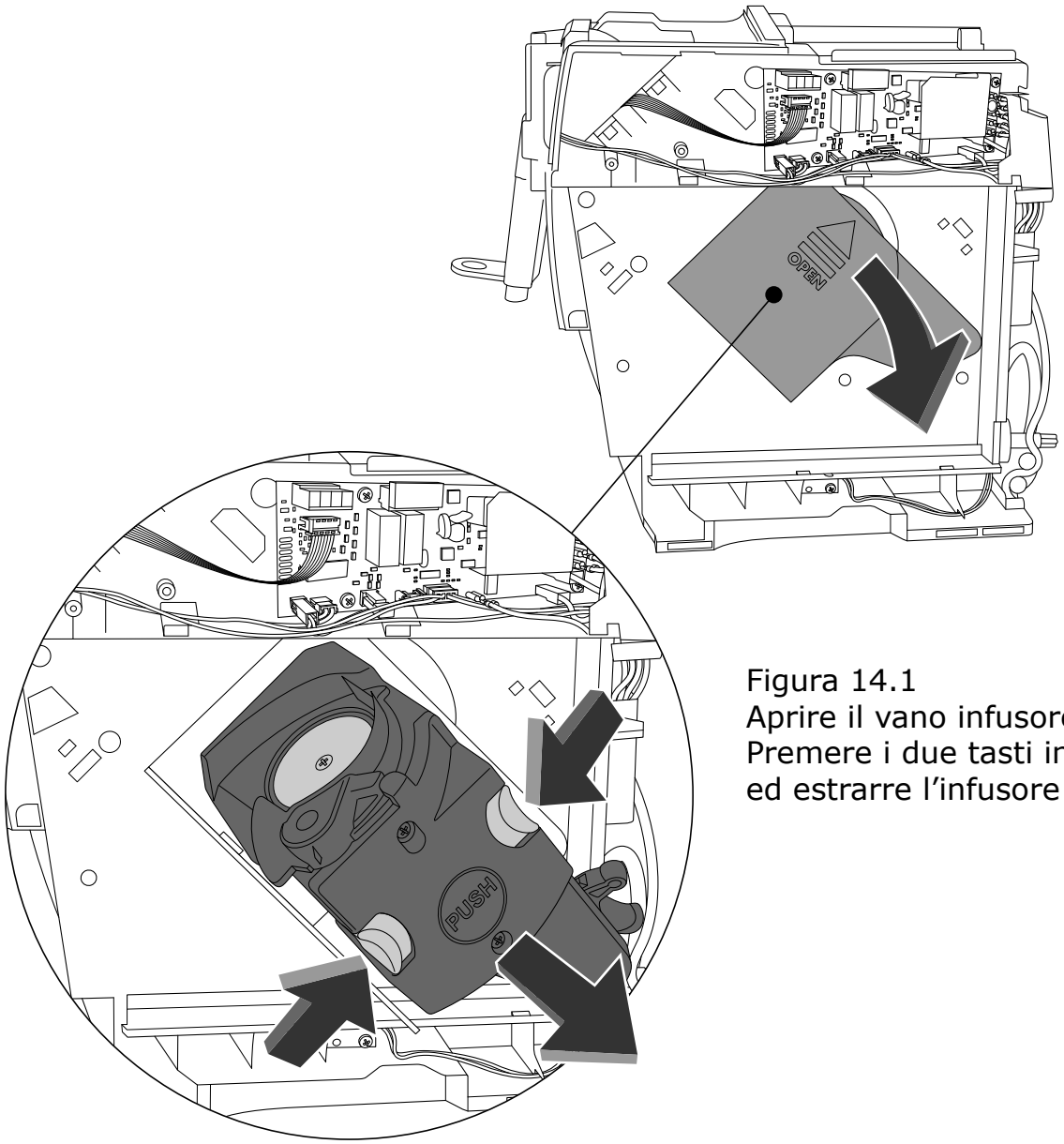


Figura 14.1
Aprire il vano infusore.
Premere i due tasti indicati
ed estrarre l'infusore

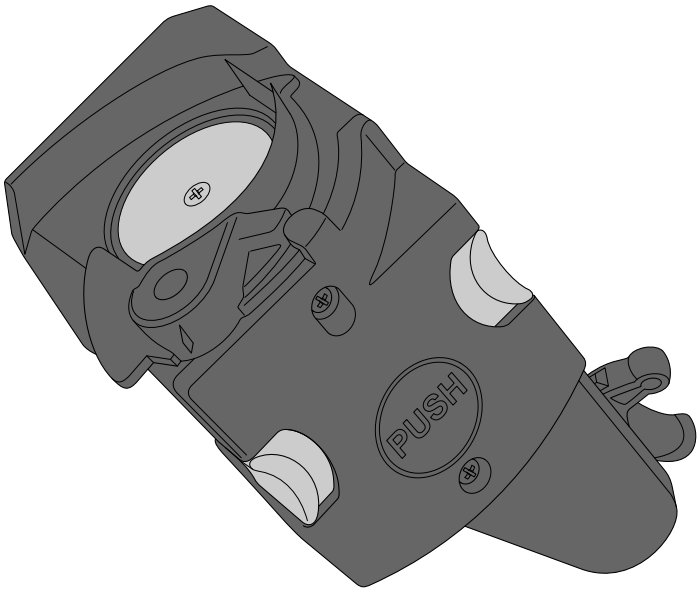
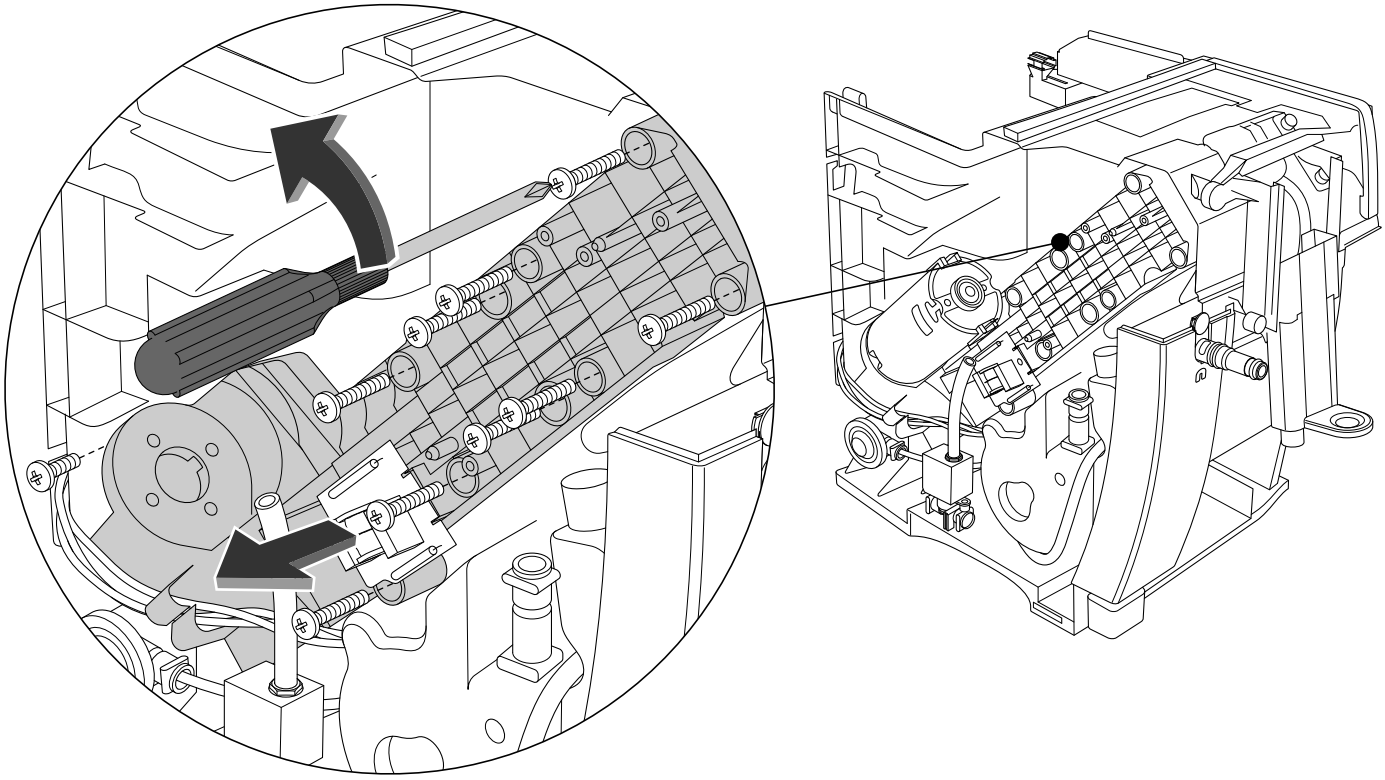
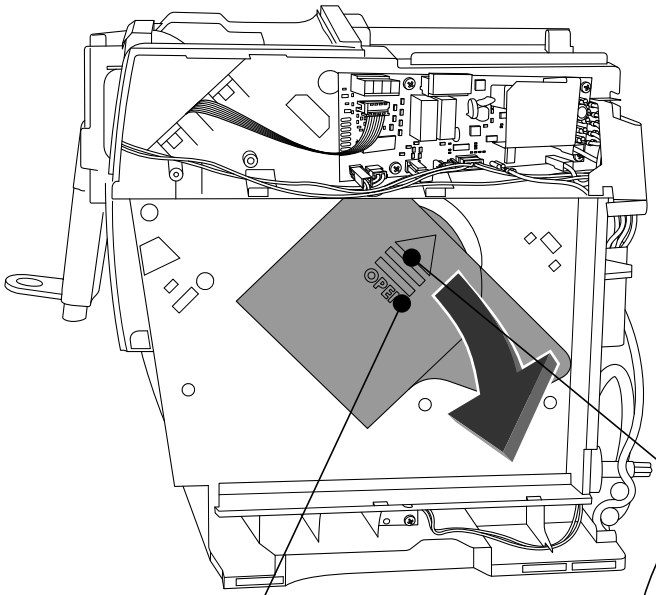


Figura 15 - **SMONTAGGIO GRUPPO MOVIMENTAZIONE**

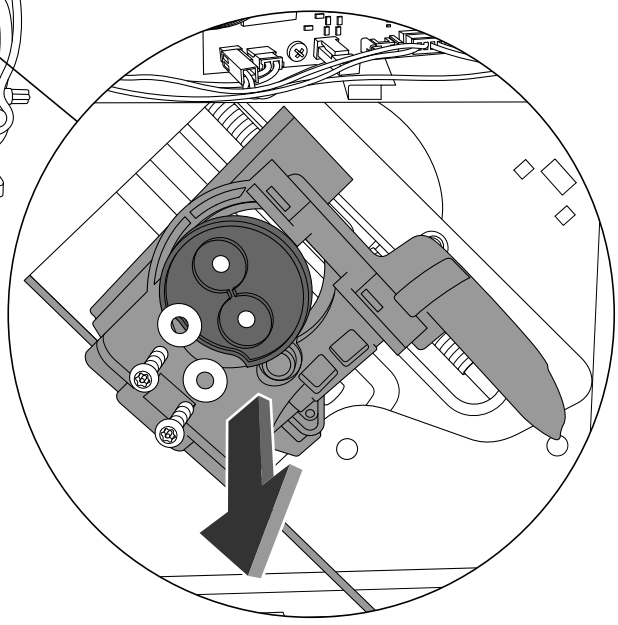
15.1 Togliere le 10 viti indicate

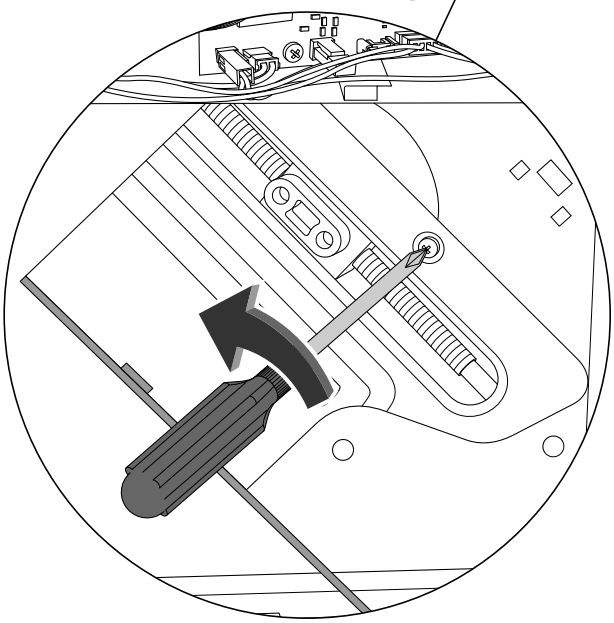




15.2
Aprire il vano infusore

15.3
Togliere le 2 viti indicate
(Torx T20)





15.4
Togliere la vite di
fissaggio della slitta

Ora il GRUPPO MOVIMENTAZIONE
può essere estratto

15.5
Togliere le 2 viti indicate per smontare
la scheda sensore (cella di Hall) della slitta

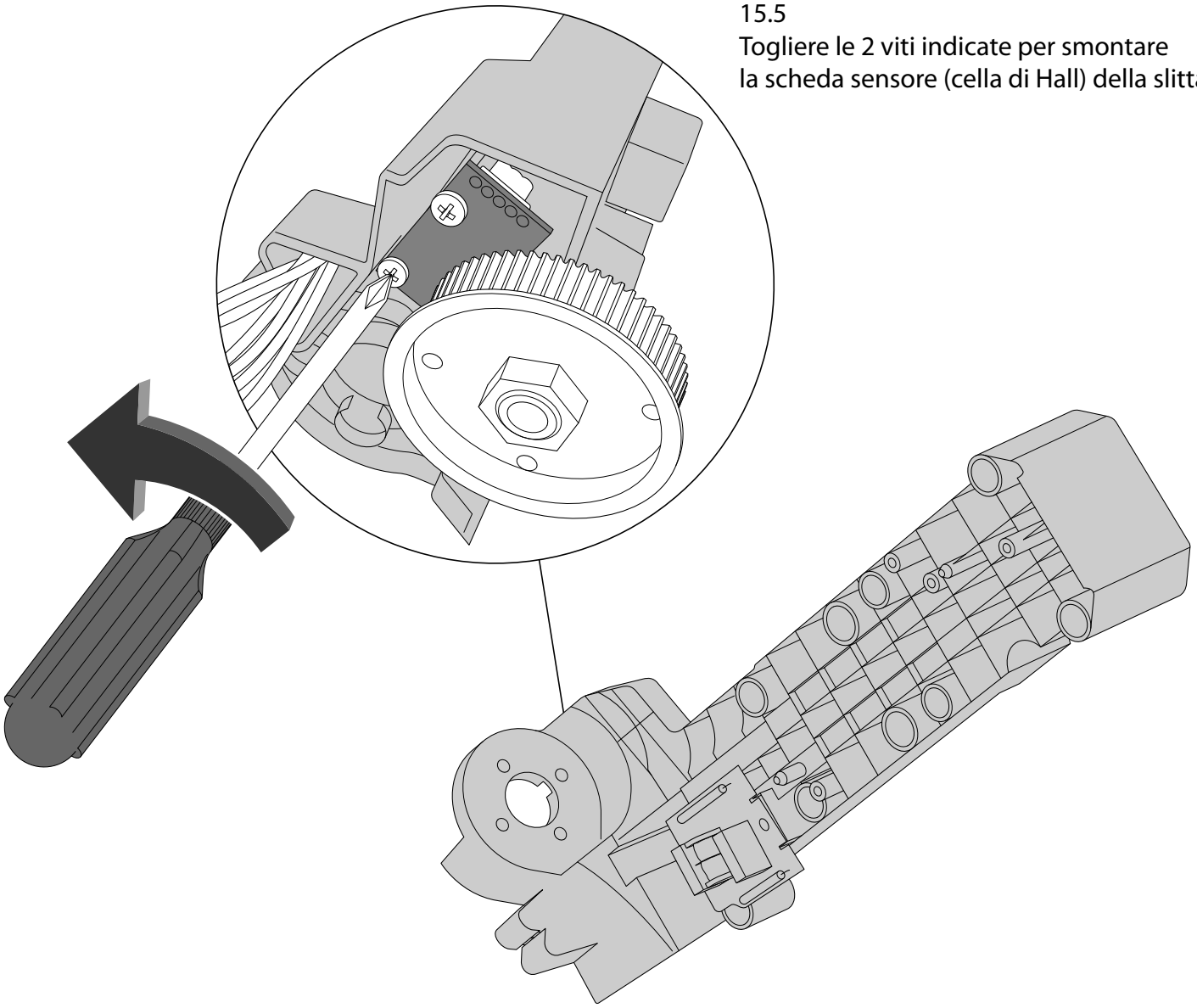
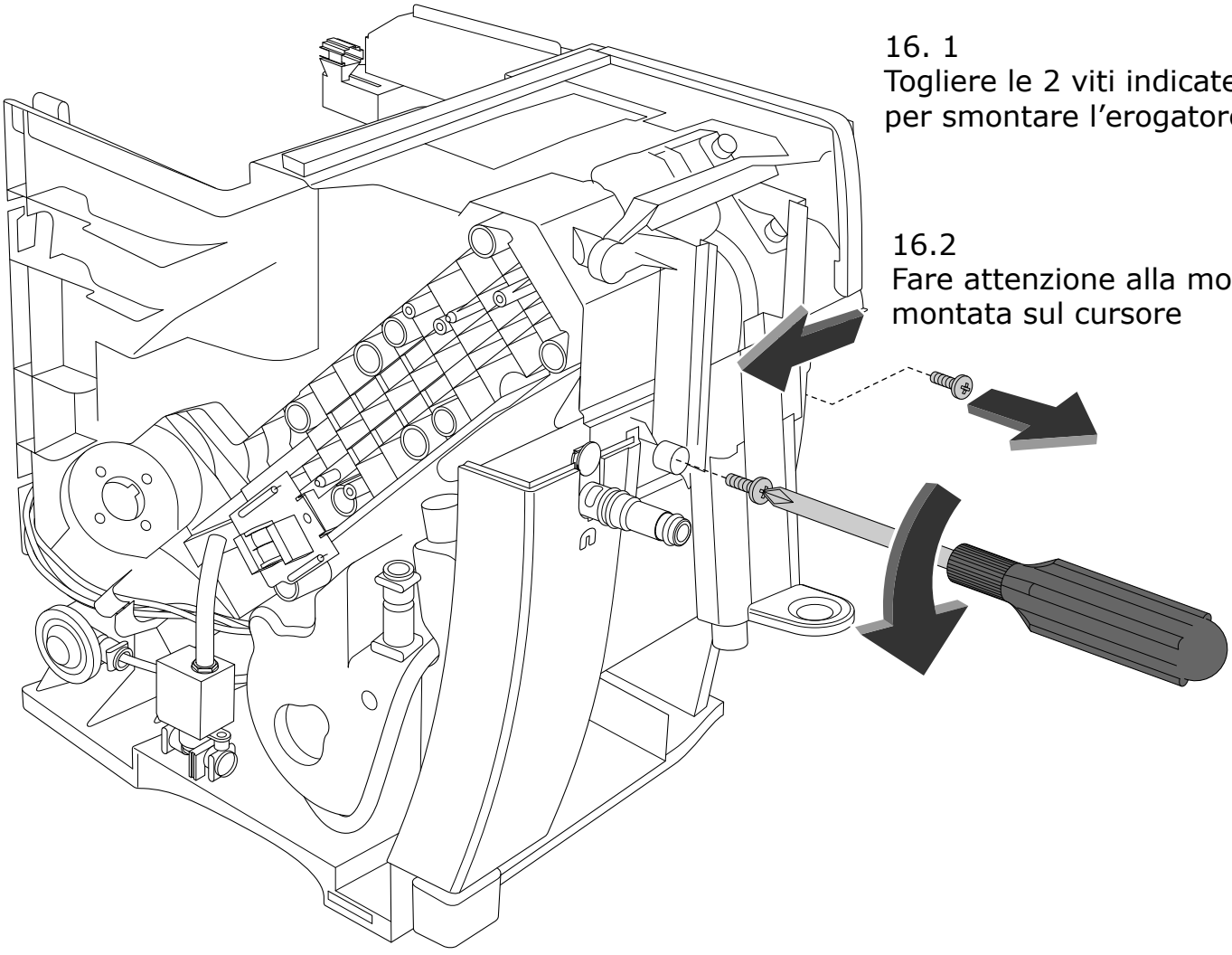


Figura 16 - **SMONTAGGIO EROGATORE CAFFE'**



16. 1
Togliere le 2 viti indicate per smontare l'erogatore

16.2
Fare attenzione alla molla montata sul cursore

Figura 17 - **SMONTAGGIO MECCANOVALVOLA**

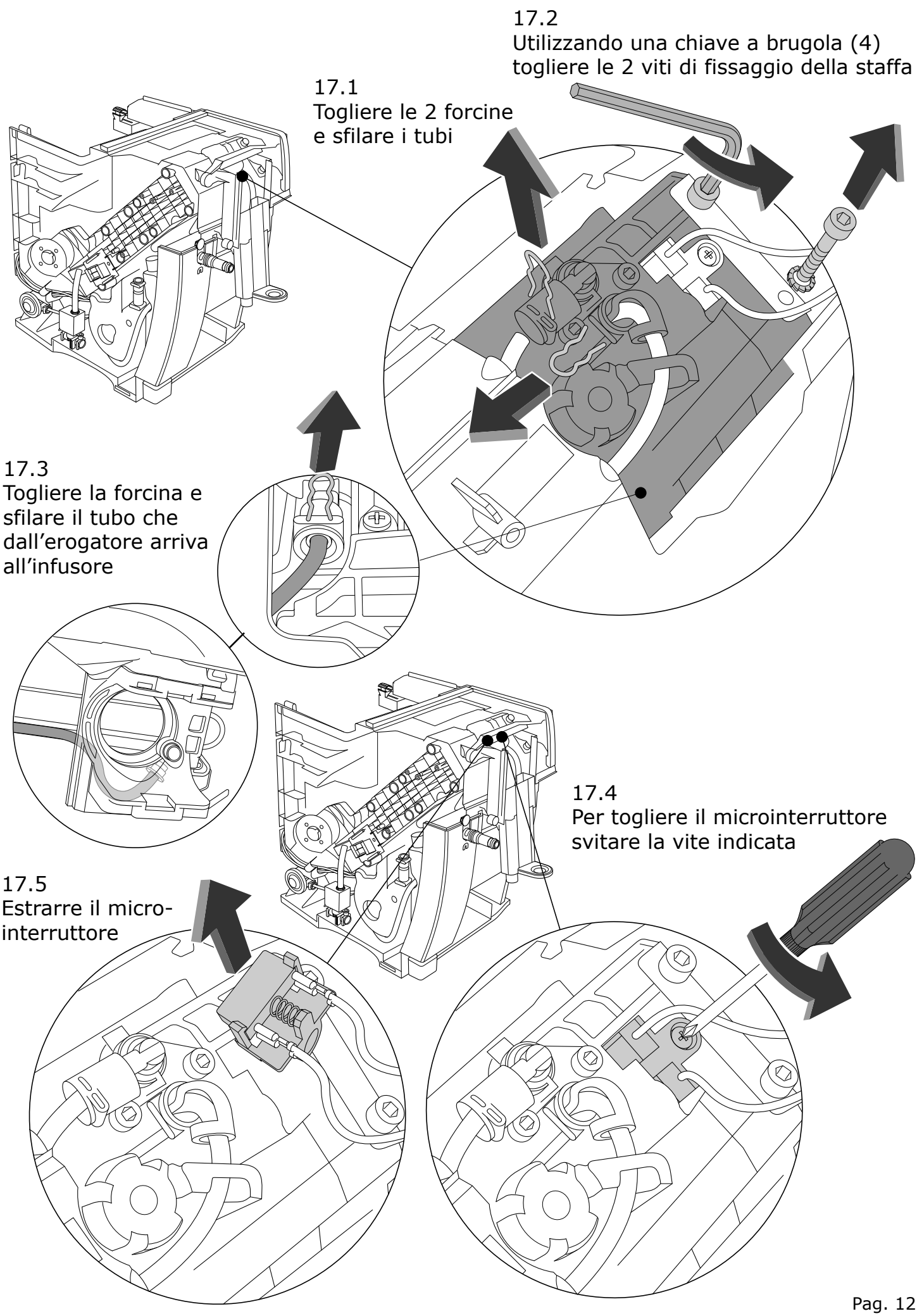


Figura 18 - **ALLINEAMENTO DELLA MECCANOVALVOLA**

Far salire l'infusore fino a farlo arrivare a contatto della meccanovalvola, senza esercitare pressione per farli entrare in contatto: devono essere solo allineati.
Una volta completata l'operazione, fissare le due viti (fig. 18.2) con una chiave a brugola.

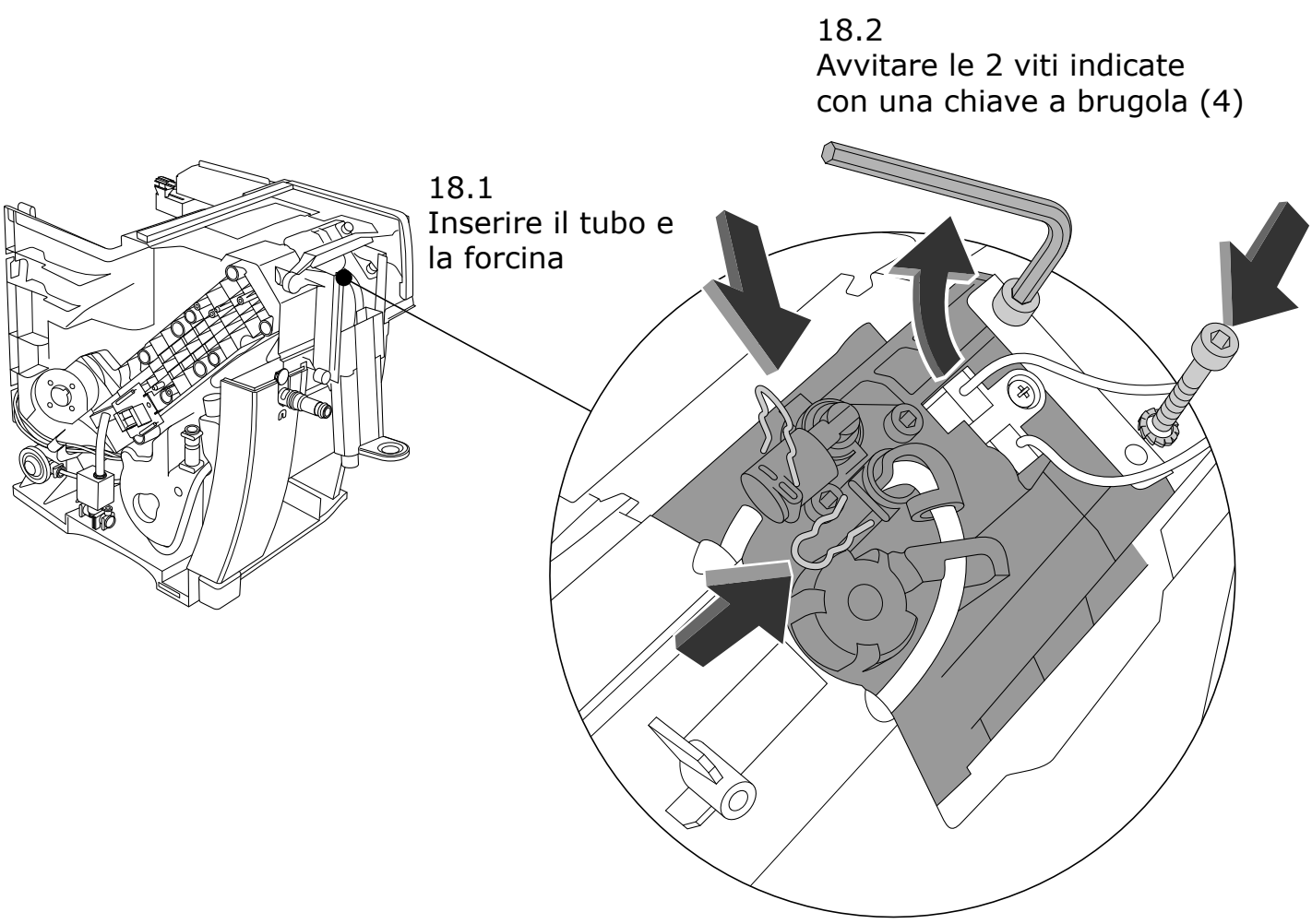
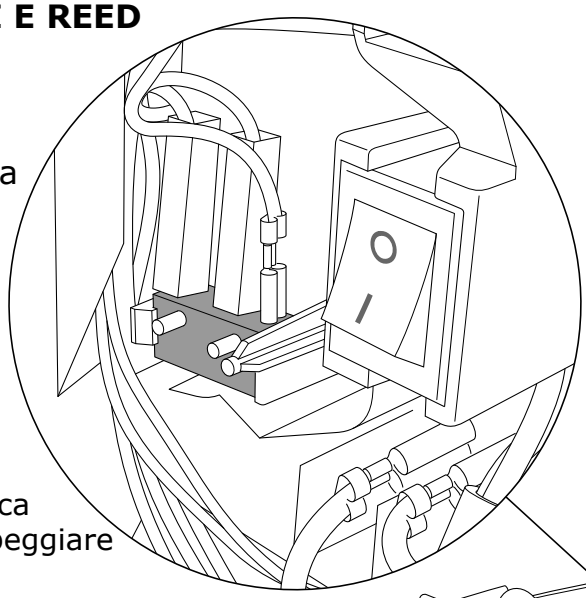


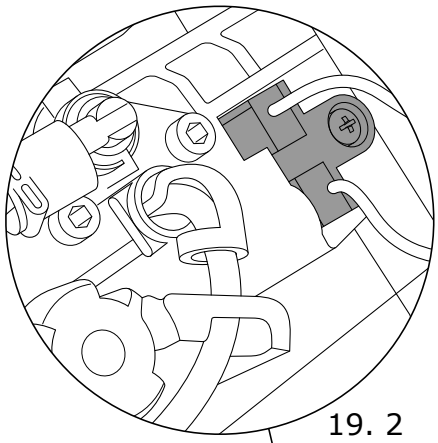
Figura 19 - **POSIZIONAMENTO MICROINTERRUTTORI E REED**



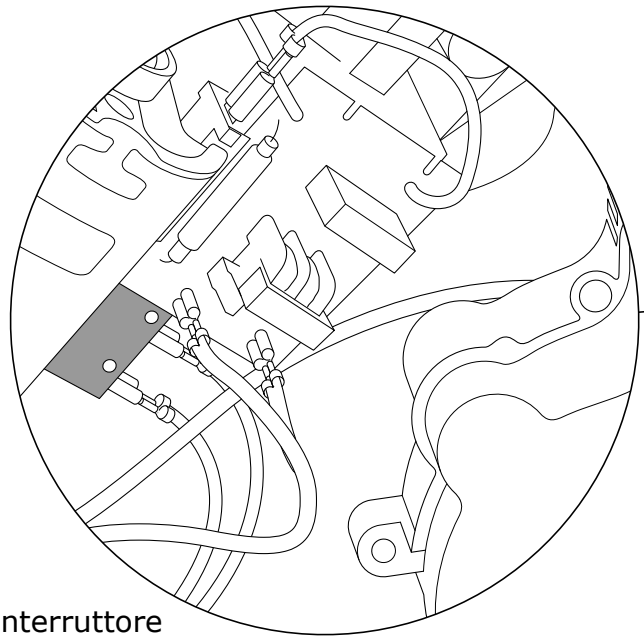
19.1
Microinterruttore tanica

ATTENZIONE: attenzione a non bypassare il micro: se doveste farlo, il motore infusore resterebbe in funzione.

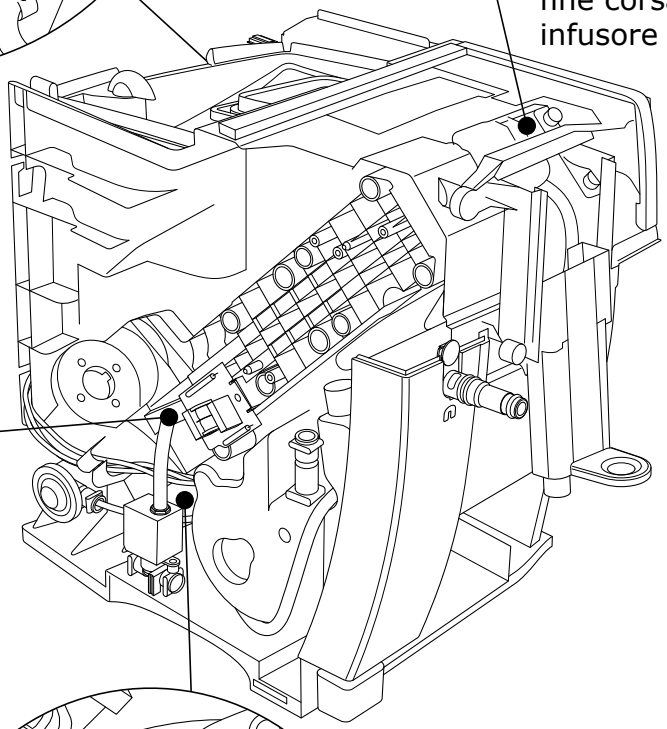
ATTENZIONE: i micro tanica e cassetto fondi fanno lampeggiare i propri led quando aperti.

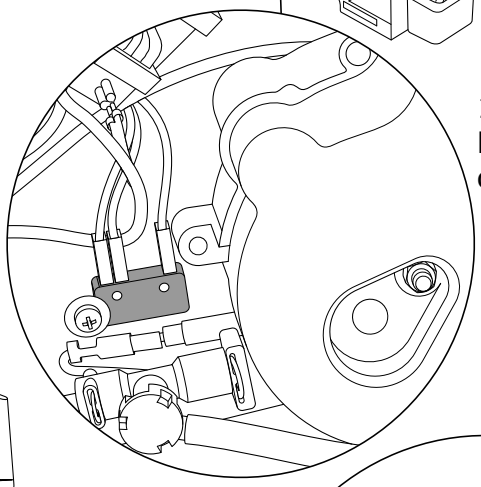


19. 2
Microint.
fine corsa
infusore

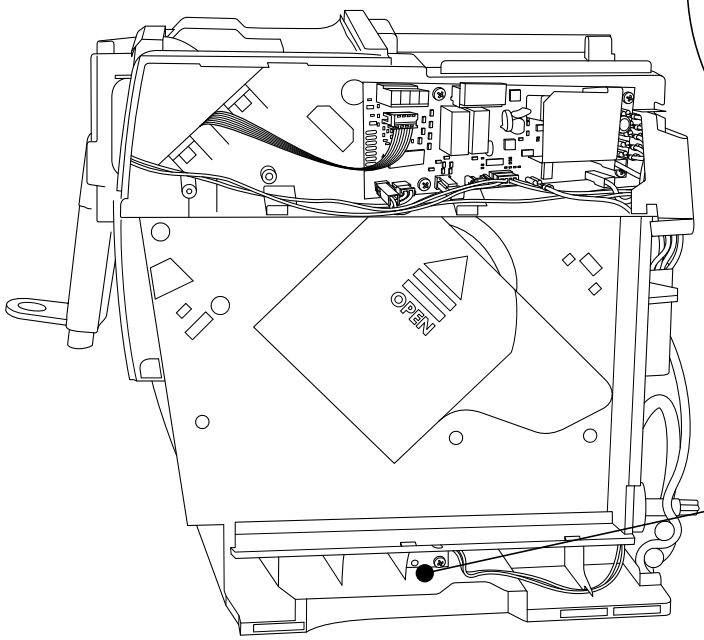


19.3
Microinterruttore
inizio corsa infusore

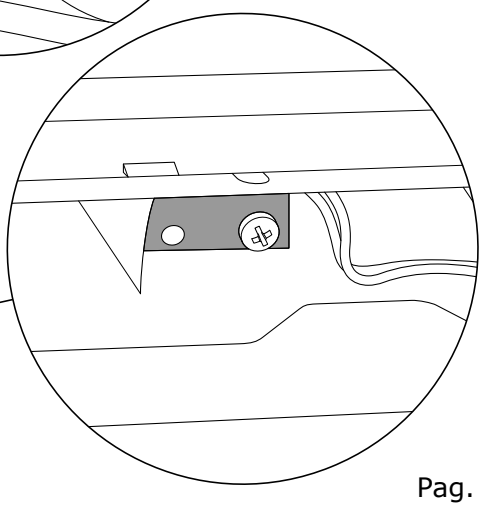




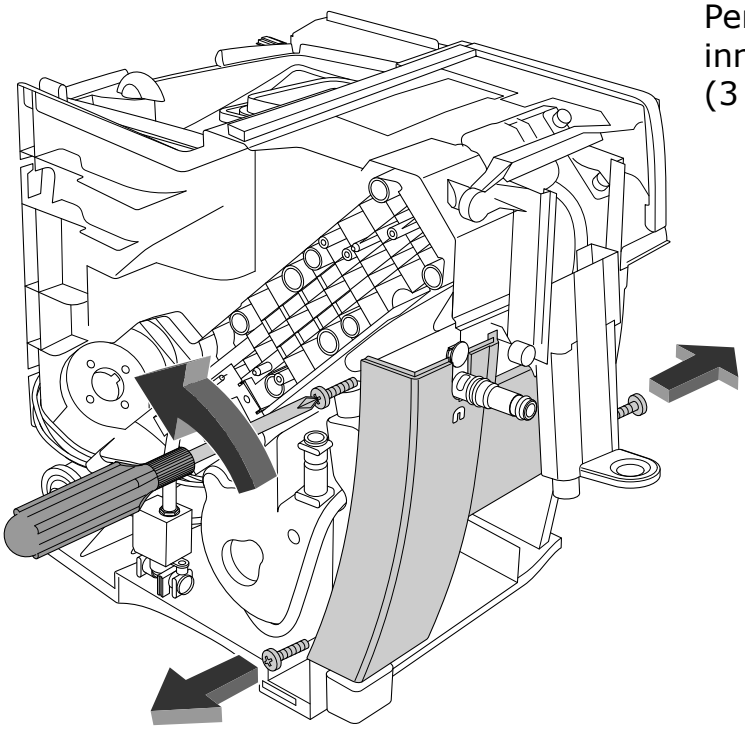
19.4
Microinterruttore
cassetto fondi

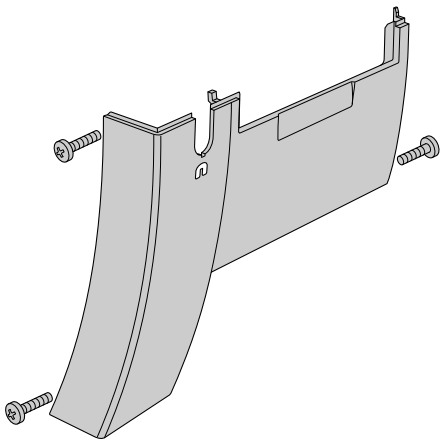


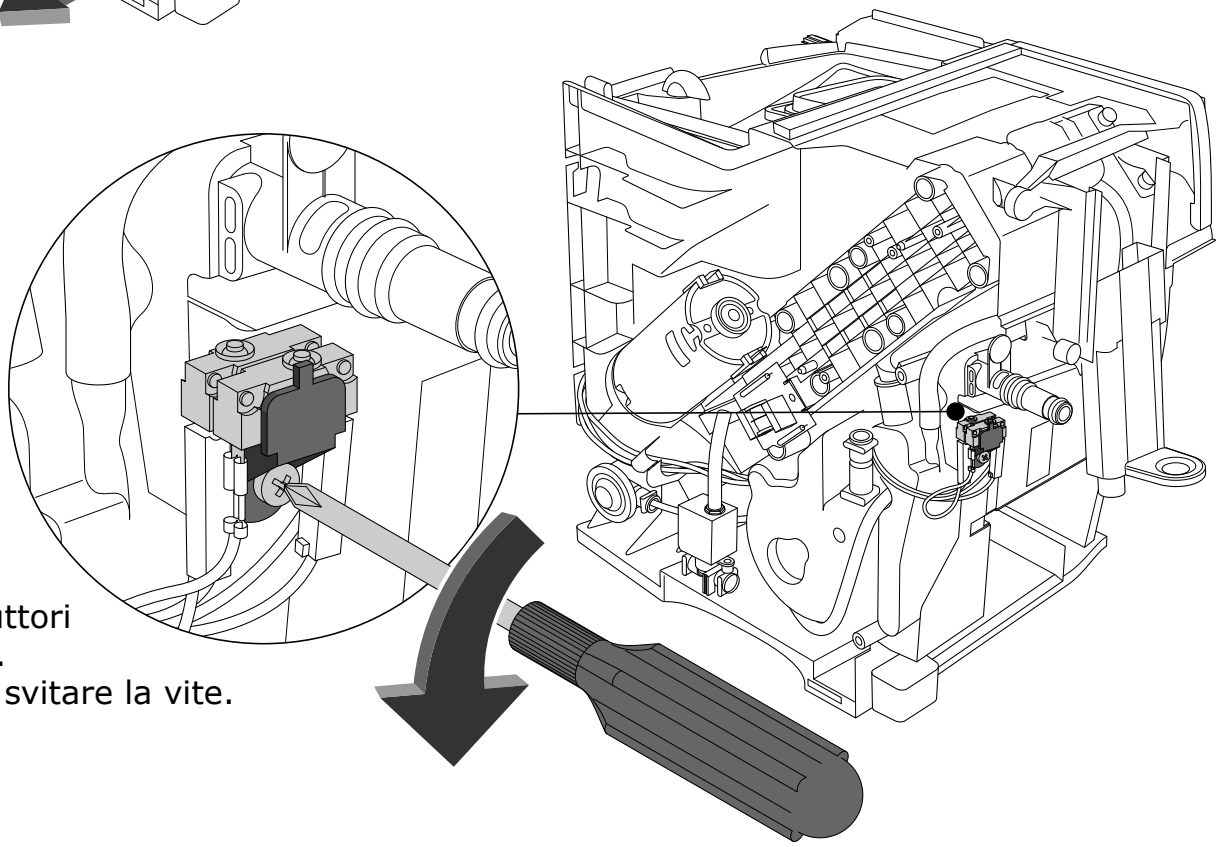
19.5
Reed tanica



19.6
Per accedere ai microinterruttori innesto IFD togliere il pannello frontale (3 viti)







19.7
Microinterruttori innesto IFD.
Per toglierli svitare la vite.

Figura 20 - **SMONTAGGIO INNESTO IFD**

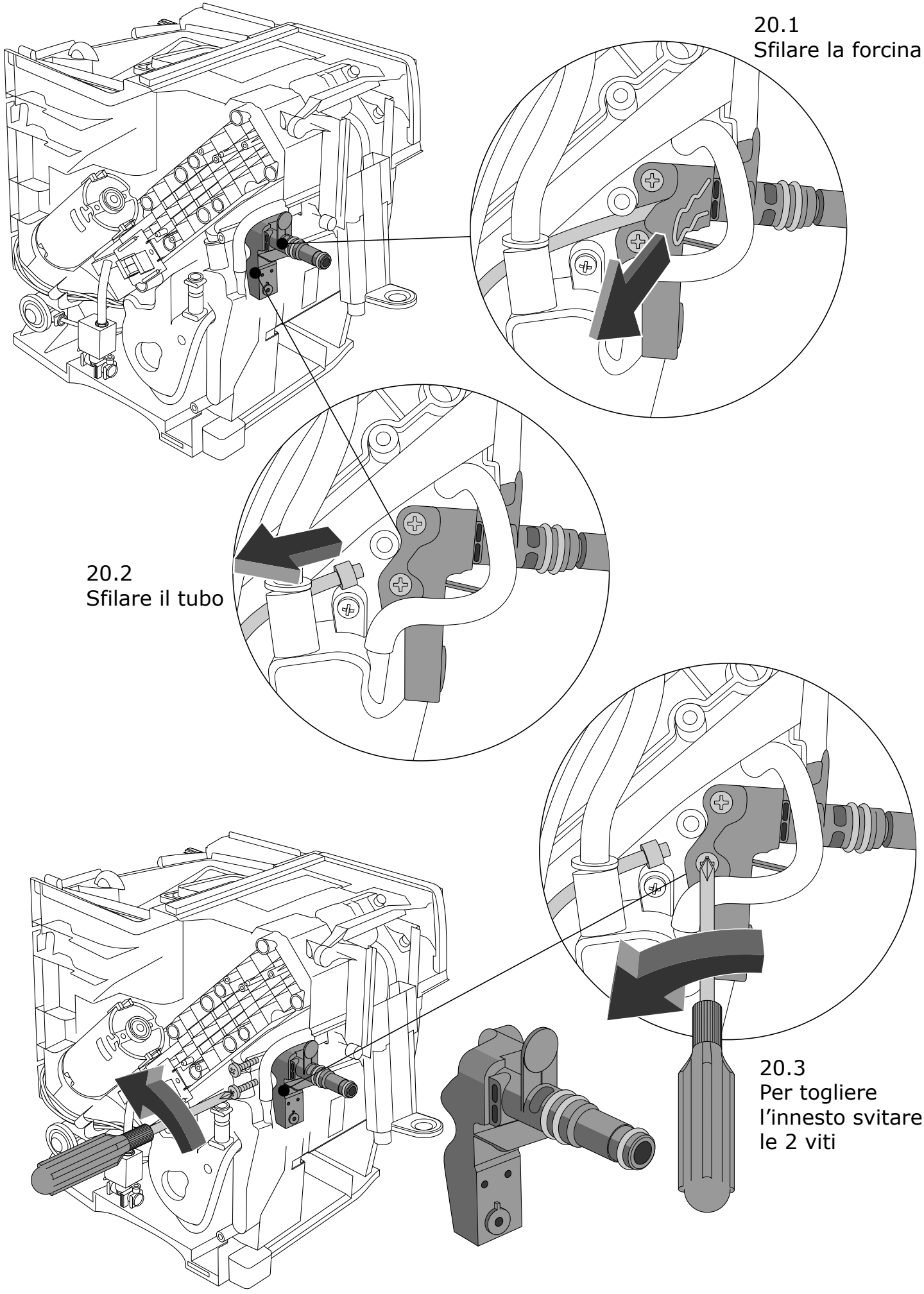
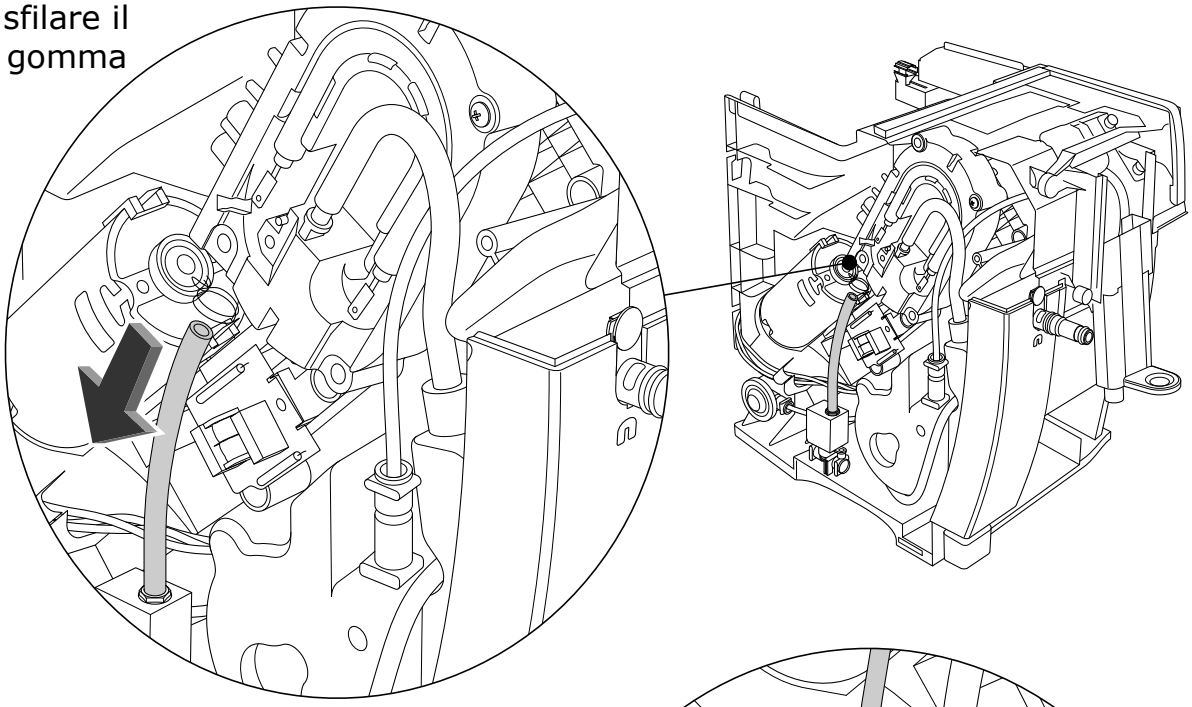
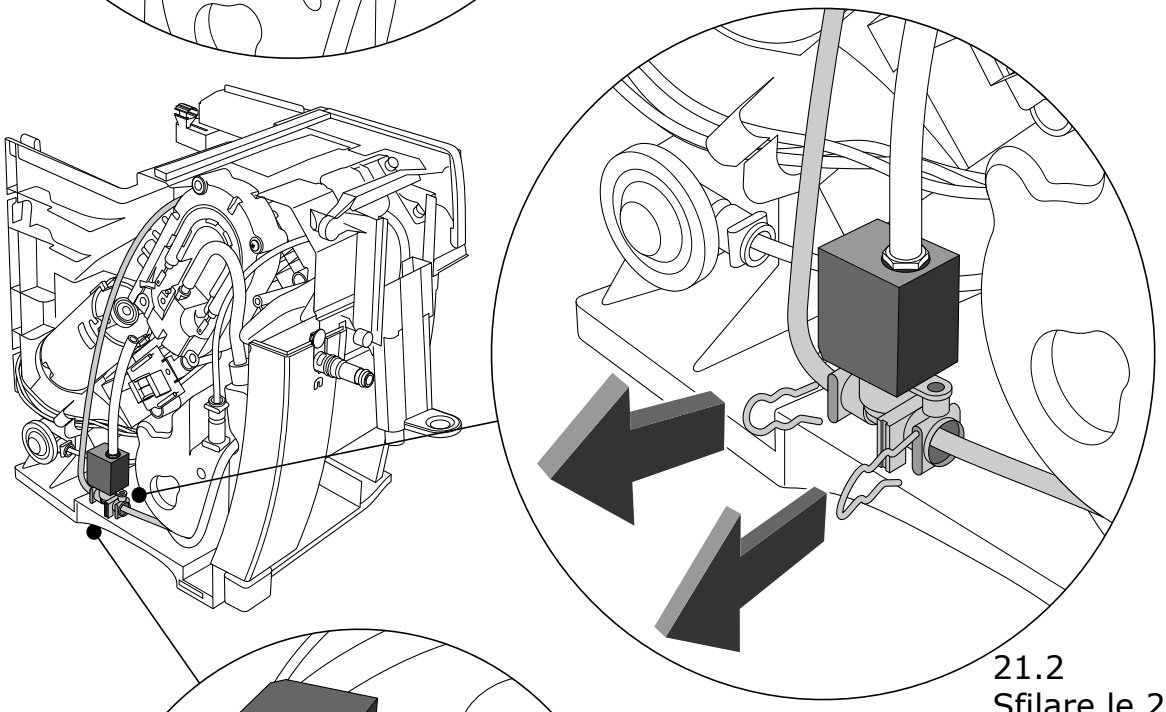


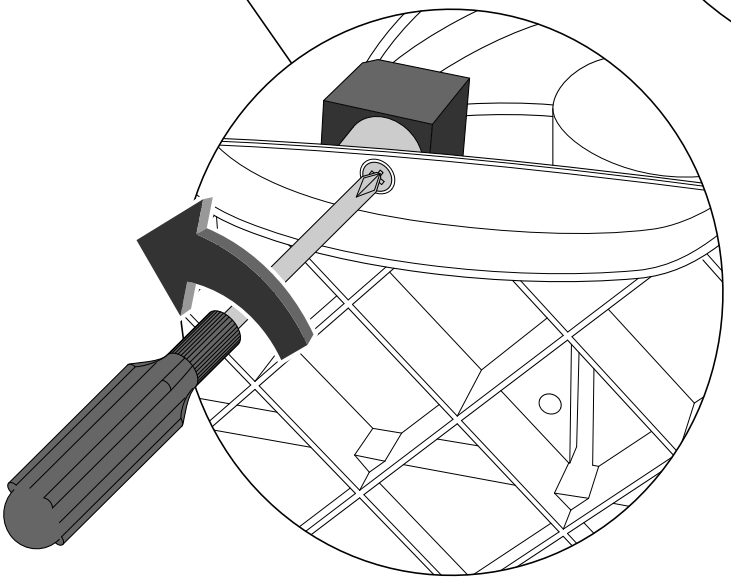
Figura 21 - **SMONTAGGIO ELETTROVALVOLA**

21.1
Togliere la fascetta a filo e sfilare il tubo in gomma





21.2
Sfilare le 2 forcine ed i 2 tubi

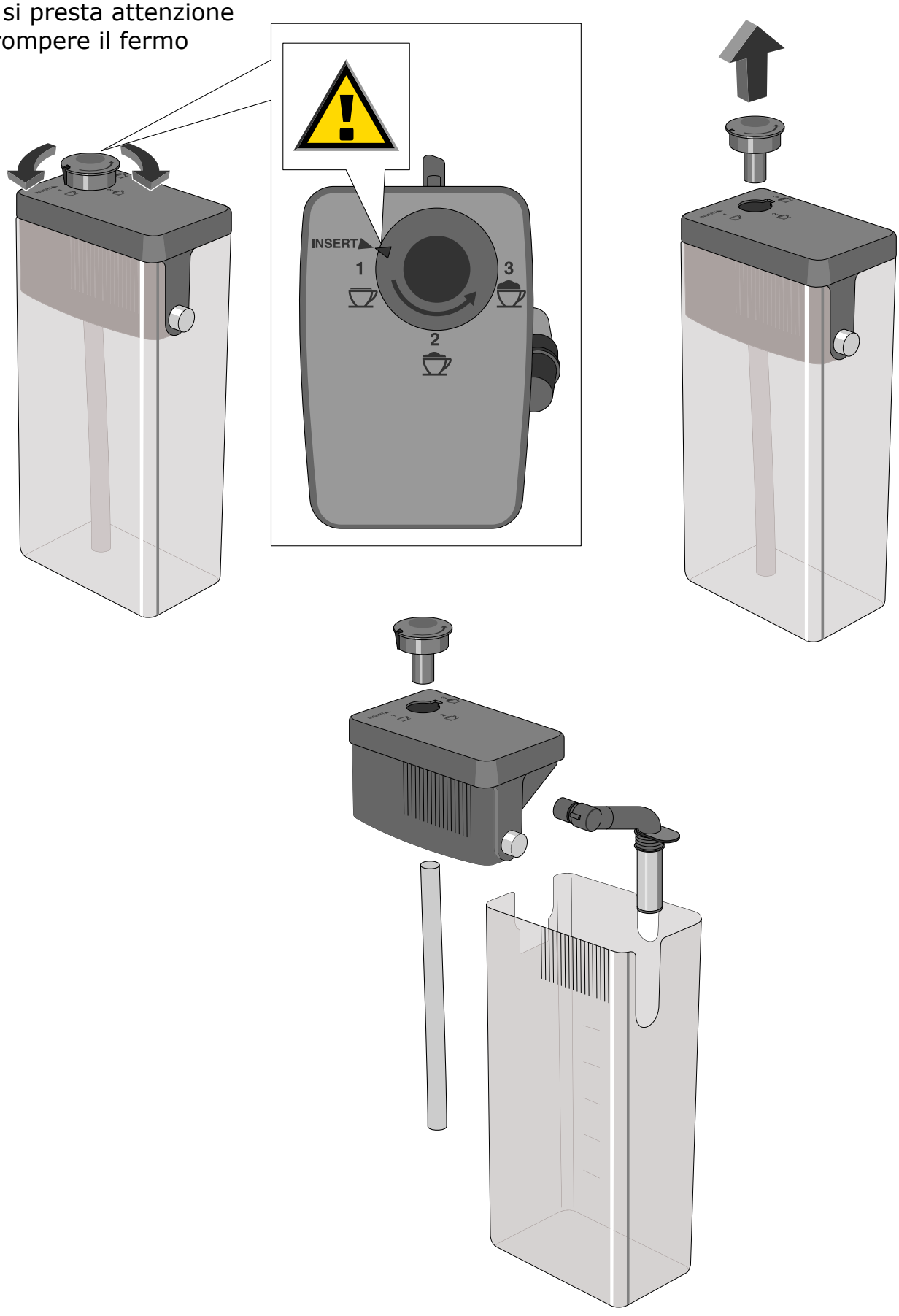


21.3
Svitare le 2 viti sul fondo della macchina

Figura 22 - **DISASSEMBLAGGIO CARAFFA**

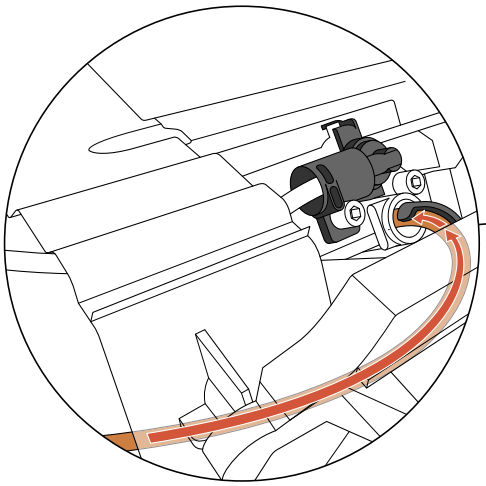
22.1
ATTENZIONE:
Per togliere la manopola
di regolazione, ruotarla fino
a far coincidere le due frecce.
Se non si presta attenzione
si può rompere il fermo

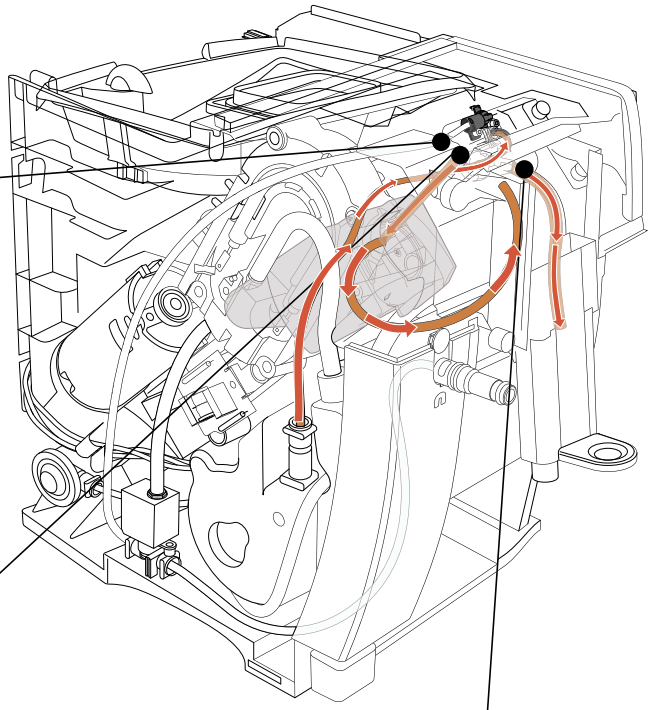
22.2
Sfilare la manopola



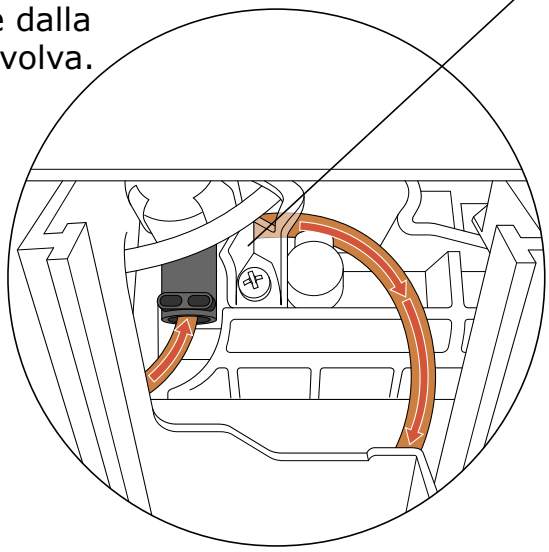
CIRCUITO ACQUA PRODUZIONE CAFFE’

4
L’acqua calda entra nella meccanovalvola.

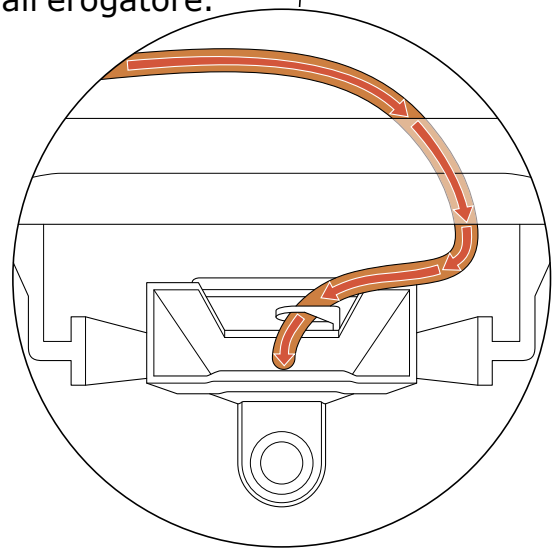




5.
L’acqua calda entra nell’infusore e passa attraverso la polvere di caffè.
Il caffè esce dalla meccanovalvolva.

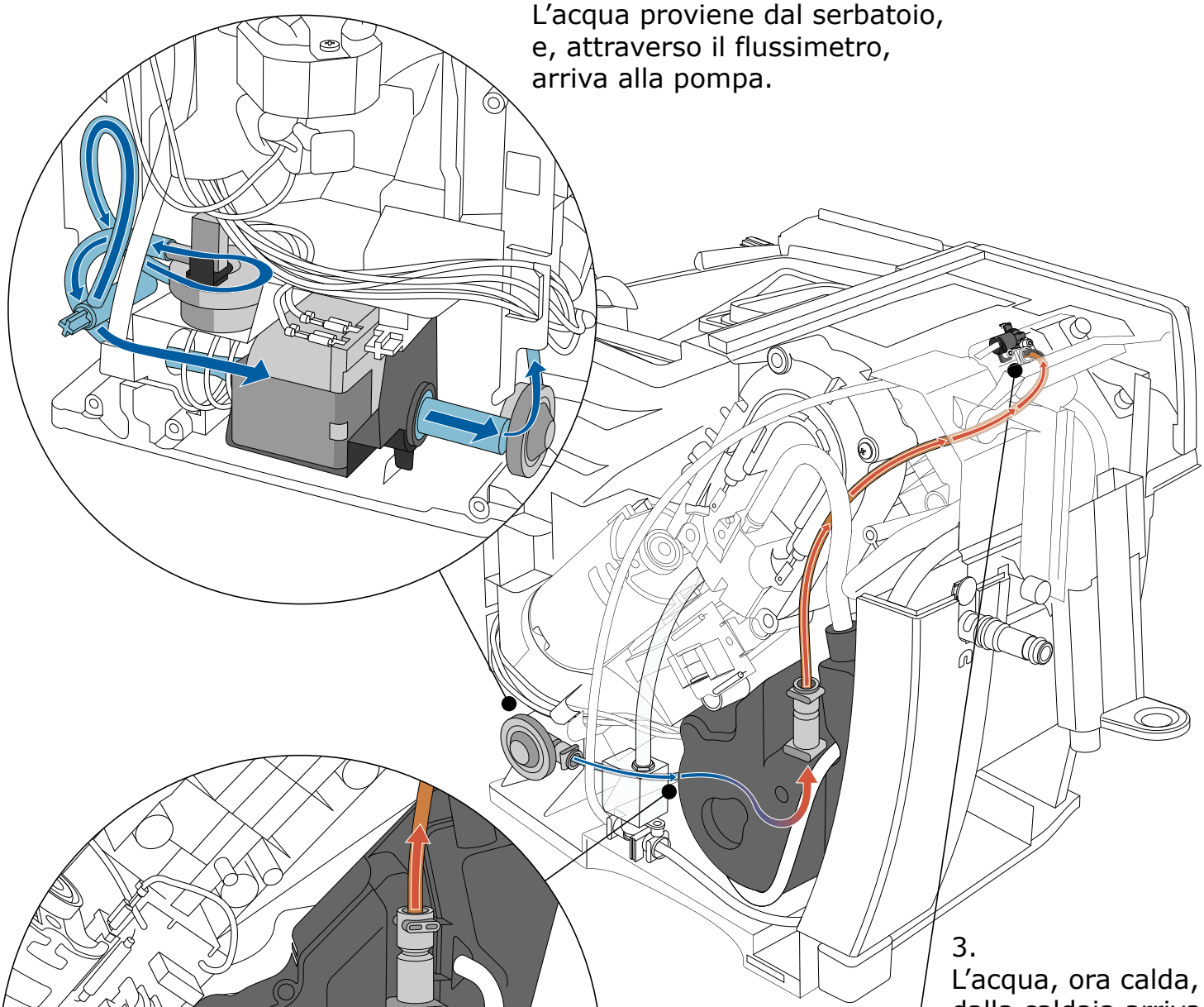


6.
Il caffè scorre fino all’erogatore.



CIRCUITO ACQUA PRODUZIONE CAFFE’

1.
L’acqua proviene dal serbatoio,
e, attraverso il flussimetro,
arriva alla pompa.

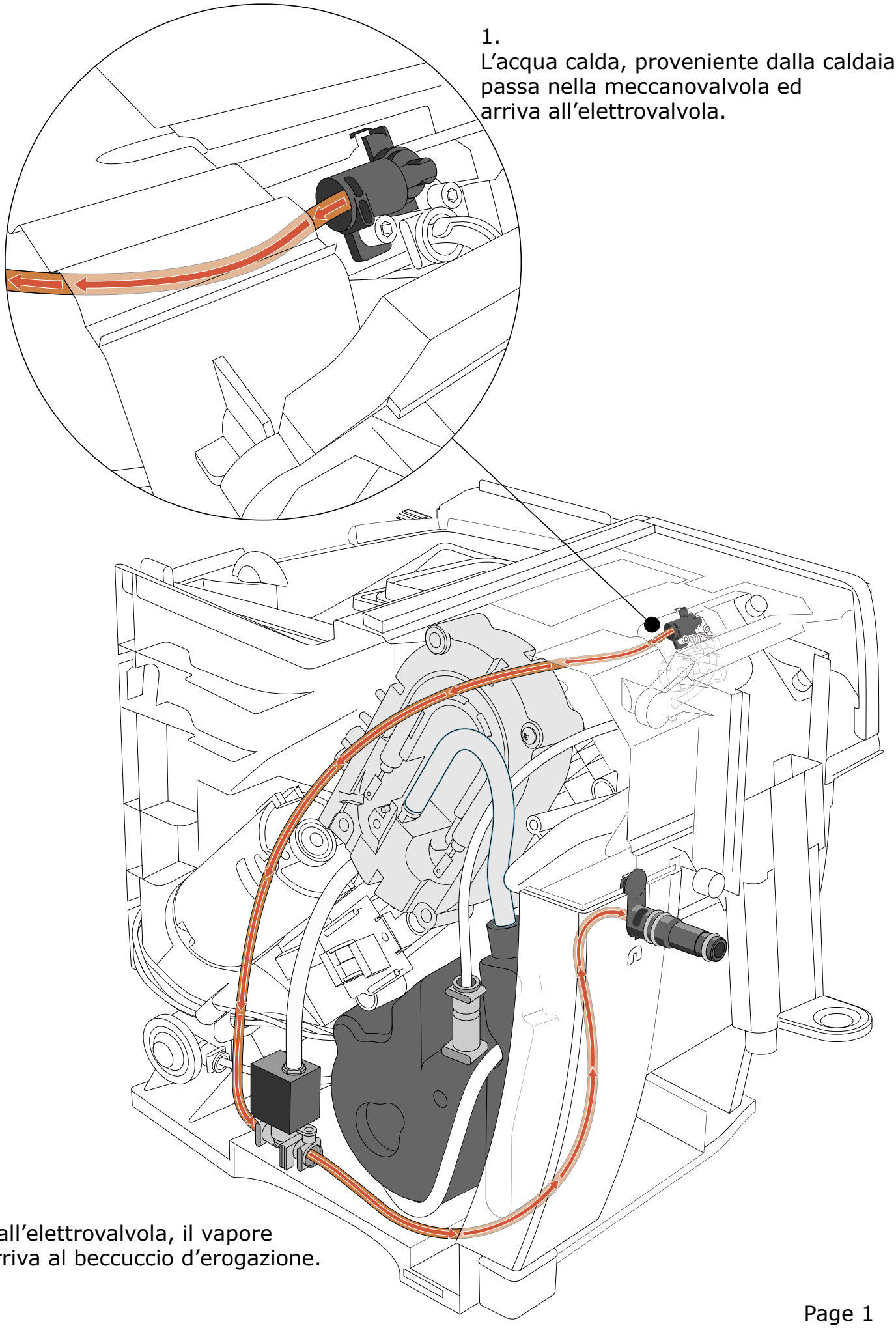


2.
Dalla pompa, l’acqua entra nella
caldaia.

3.
L’acqua, ora calda,
dalla caldaia arriva
alla meccanovlavola.

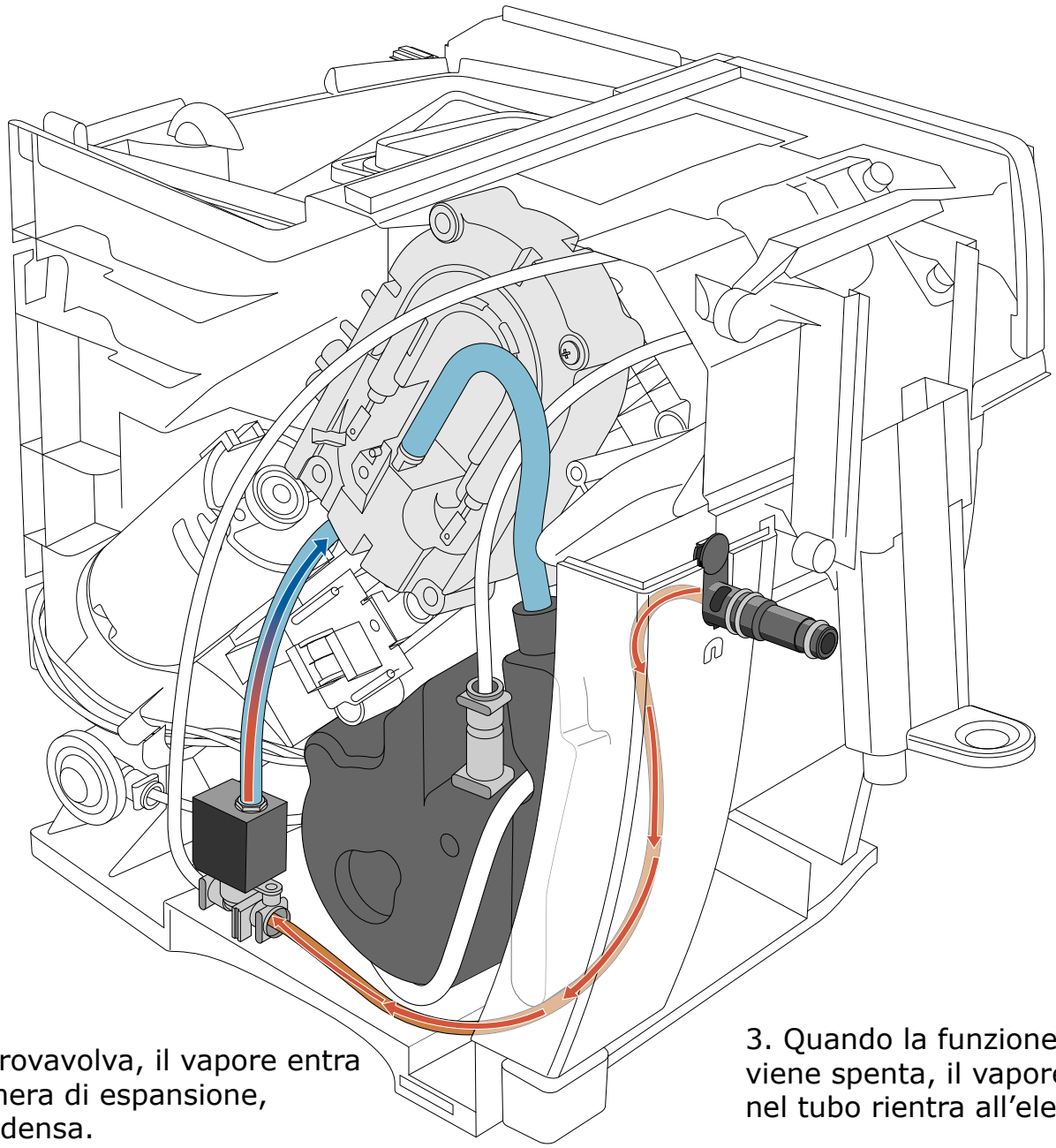
CIRCUITO ACQUA PRODUZIONE VAPORE

1.
L’acqua calda, proveniente dalla caldaia, passa nella meccanovalvola ed arriva all’elettrovalvola.



2.
Dall’elettrovalvola, il vapore arriva al beccuccio d’erogazione.

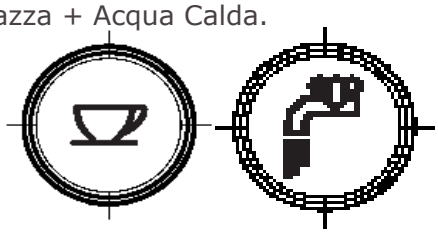
CIRCUITO ACQUA PRODUZIONE VAPORE



4.
Dall’elettrovavolva, il vapore entra nella camera di espansione, dove condensa.
L’acqua viene raccolta nella vaschetta.

3. Quando la funzione Vapore viene spenta, il vapore presente nel tubo rientra all’elettrovalvola.

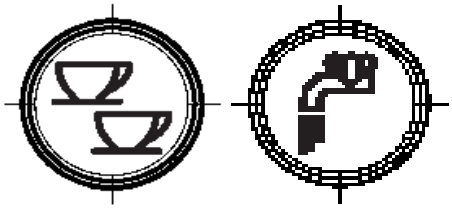
PROCEDURA DI TEST PER LA **ECAM23.450** INTENSA IFD

PROCEDURA	Premendo le varie icone, si alimentano i seguenti dispositivi:	
	icona	dispositivo
Interruttore generale in posizione 0. Cavo elettrico collegato alla rete. Premere contemporaneamente i tasti 1 Tazza + Acqua Calda.  Premere l'interruttore ON/OFF (pos. 1)		EV1
		Caldaia
		Motore macinino
		EV1
		Motore, verso l'alto "Micro fine corsa" e verso il basso "Micro inizio corsa"
		Pompa
NOTA: Rilasciare i tasti quando il motore quando inizia la movimentazione		

NOTA: Tutti i micro emettono il segnale acustico quando attivati.

Per USCIRE dalla procedura, premere l'interruttore On/Off (pos. 0) o staccare il cavo di alimentazione.

PROCEDURA DI TEST DISPLAY PER **ECAM23.450** INTENSA IFD

PROCEDURA DI TEST DISPLAY	Premendo su ciascuna icona, si visualizza il seguente messaggio	
	icona	messaggio
Interruttore generale in posizione 0. Cavo elettrico collegato alla rete. Premere contemporaneamente i tasti 1 Tazza + Acqua Calda.  Premere l'interruttore ON/OFF (pos. 1)		BUTTON 1
		BUTTON 2
		BUTTON 3
		BUTTON 4
		BUTTON 5
		BUTTON 6
		BUTTON 7
		BUTTON 8
Nota: Rilasciare i tasti dopo il messaggio "DISPLAY TEST MODE".	Girando la manopola, il Display mostrerà la barra di incremento e decremento	

NOTA: Dopo aver eseguito il test, è necessario inizializzare la macchina.

Per USCIRE dalla procedura, premere l'interruttore On/Off (pos. 0) o staccare il cavo di alimentazione.
La macchine esce automaticamente dalla procedura di test dopo un minuto.