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Servicemanual
Moisture analyzer

KERN TDIS-A

Version 1.0

05/2026



GB

GB

KERN TDIS

Version 1.0 05/2026

Servicemanual

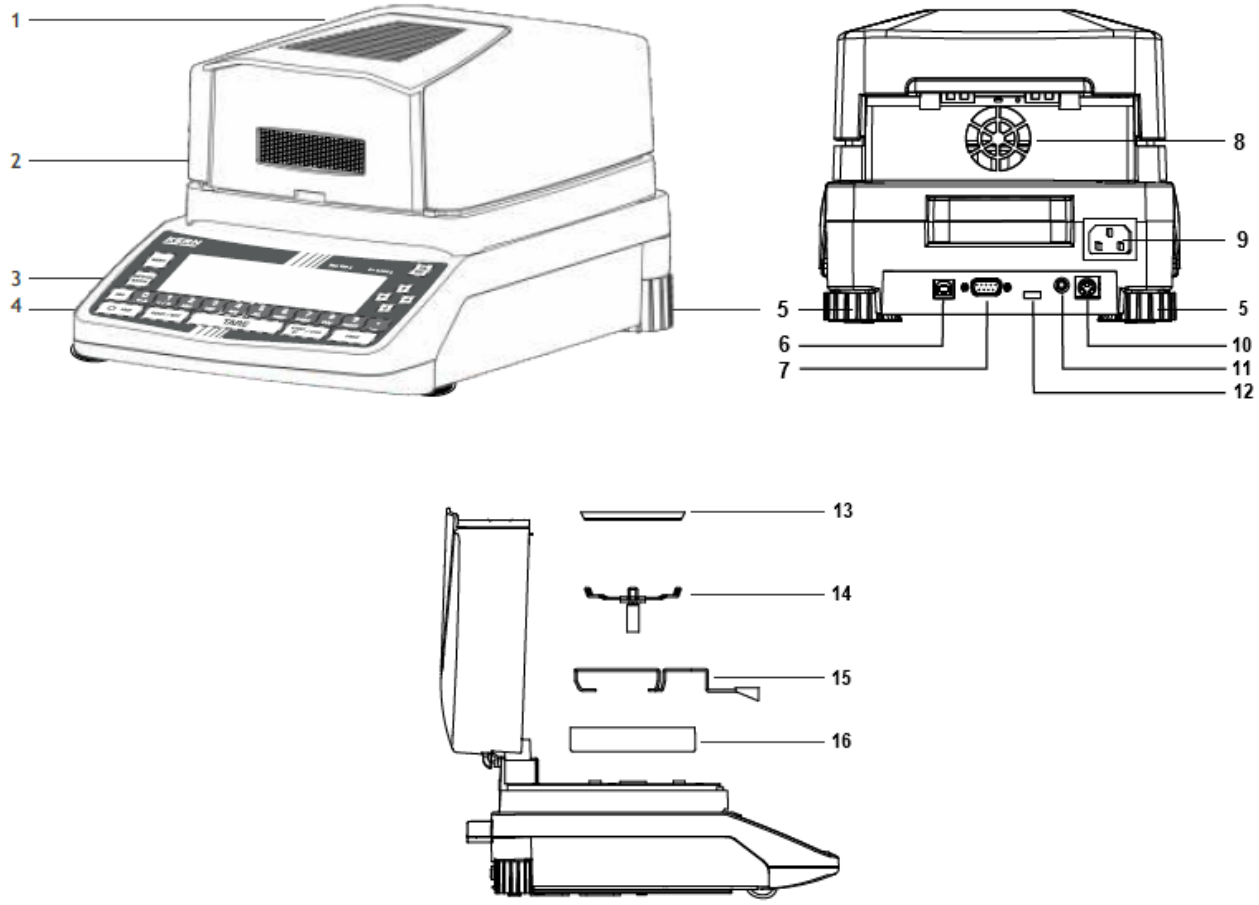
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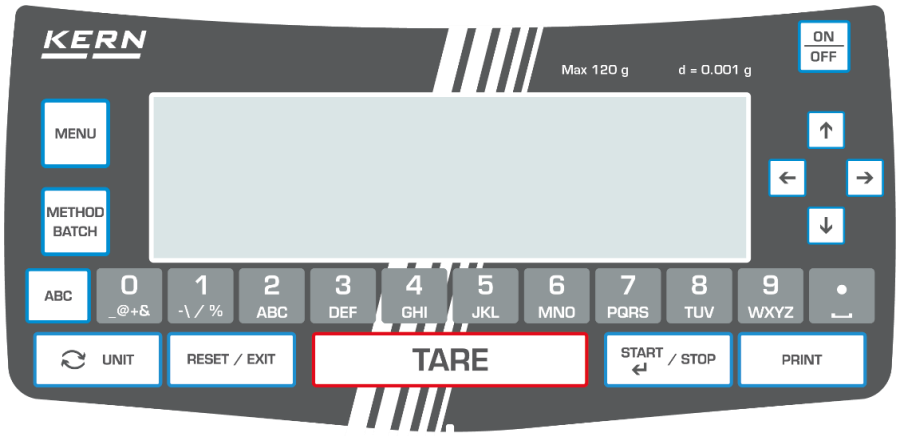
1 TOTAL VIEW

1.1 Components



Item	Designation	Item	Designation
1	Ventilation grille	9	Mains connection
2	Cover	10	PS2 connection
3	Display	11	Connection for foot switch
4	Keyboard	12	Adjustment switch
5	Adjustable feet	13	Sample tray
6	USB port	14	Weighing cross
7	RS232 connection	15	Sample tray holder
8	Fan	16	Wind shield

1.2 Keyboard and display overview



Key	Designation	Function
ON OFF	**[ON/OFF]**	Switch on / Standby
MENU	**[MENU]**	• Open menu (press and hold for approx. 2 seconds) • Short press: Go-To function→ By default, the main menu opens (can be changed in the soft key settings)
METHOD BATCH	**[METHOD/BATCH]**	• Open method list (short press) • Open batch list (press and hold for approx. 2 seconds – only active if the BATCH-WISE storage method is enabled)
ABC	**[ABC]**	Switch between numbers and characters (inactive during the drying process)
0 _@+& ... 9 WXYZ	**[NUM]**	Numbers and characters (press **[ABC]** to switch)
• ␣	**[POINT/SPACE]**	If **[ABC]** has NOT been activated: • Set decimal point (first short press) • Space (second short press) If **[ABC]** has been activated, in sequence: • Space • : • * • Decimal point
Key	**Designation**	**Function**
↑	**[↑]**	• Navigate up one menu level • Display statistics for the result
→	**[→]**	• Activate menu level • If **[←]** was pressed previously: Scroll through results

↓	[↓]	• Navigate down menu level • Exit statistics view
←	[←]	• Return to previous menu level • Display previous results (in descending chronological order)
UNIT	[TOGGLE]	• Change drying units (only active in drying mode) • Change and save ID (only active in pre-analysis mode)
RESET / EXIT	[RESET/EXIT]	• Exit function is available in the menu and reset function is available after the process Exit function: • Return to pre-analysis mode Reset function: • Return to weighing mode
TARE	[TARE]	• Pre-analysis mode: Tare the weight (with container) or zero the balance (unloaded weighing pan) • In the method list: Delete • Backspace key for alphanumeric entry and delete key for user ID, password and batch ID • Key is deactivated during drying (except for the "Steps" heating profile – here, the information display can be opened with the key) • Remove parameter from print format
START / STOP ↵	[START/STOP & ENTER]	• Start/stop drying process • Confirm numeric or alphanumeric values
PRINT	[PRINT]	Print data

1.3 Advertisement overview

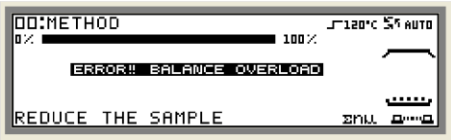
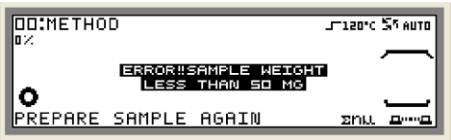


Item	Advertisement	Description
1	01:MILK PWDR	Method no. and name (maximum 10 characters)
	1:JUL 14	Batch no. and name (maximum 10 characters)
	110°C	Heating profile symbol and set temperature
	AUTO	Shutdown criterion symbol
2	0% 10 %	Capacity bar (load on the balance)
3		Stability indicator
		Minus
4	2.060	Weight values
	27.0	Moisture values
5		Heating chamber closed
		Heating chamber open
	100°C	Standby temperature
		Sample preparation
		Sample ready
		Sample is being heated
	F END	Measurement interrupted
	END	Shutdown criterion reached
Pos.	**Display**	**Description**
6	SET METHOD [START]	Information about next step
	00:23:56	Current analysis time
	119°C	Current heating chamber temperature
	93MG/MIN	Moisture loss in the last minute
7	1 2 3 4	User-defined lines→ configurable is displayed inverted
8	ΣMW	Statistics symbol
9		Data transfer

2 TECHNICAL DATA

KERN	DIS 50-4	DIS 100-3
Item number / Type	TDIS 50-4-A	TDIS 120-3-A
Weighing range (max)	50 g	120 g
Readability (d)	0.0001 g	0.001 g
Readability moisture	0.0001 %	0.001 %
Reproducibility weighing 2 g	0.05 %	0.1 %
Reproducibility, weighing range 10 g	0.02 %	0.03 %
Tare range	50 g	120 g
Minimum weight (min)	200 mg	200 mg
Warming time	30 min	
Temperature range	30–175 °C	
Shutdown criterion	• Automatic • Manual • User-defined	
Heating profiles	• Standard drying • Gentle drying • Fast drying	
Result displays	%M, %D, %R (ratio), Gm/Lt, %M Atro, %D Atro	
Heating unit	Infrared halogen	
Program memory	40 methods	
Data memory	Storage of the last 1000 results	
Statistics	Method or batch storage of more than 9,999,999 data statistics	
Standby temperature	30–100 °C	
Interface	RS232, USB	
Print	GLP-compliant, user-defined	
Display	LCD with backlight	
Power	220–240 V, 50/60 Hz	
Power consumption (watts)	Max 415	
Housing dimensions (mm)	211 x 342 x 187	
Weight	5 kg	

3 ERROR CODES

Error message	Explanation
	Load unstable→ Ensure calm environmental conditions
	Underload→ Increase load
	Overload→ Reduce load
	→Chamber temperature is higher than the set temperature for measurement. Allow to cool.
	Sample weight is less than 50 mg→ Use a higher weight

4 TROUBLE SHOOTING

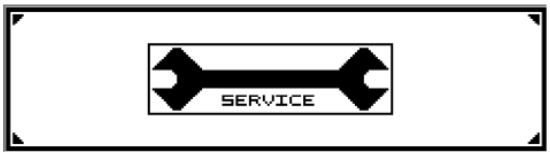
Errors	Probable Causes	Rectification
Balance cannot be switched ON	• No power line voltage • Power cable of AC adaptor is not plugged in or faulty. • Power supply unit faulty. • Fuse is faulty.	• Change Adaptor • Change Power Connecting cables. • Change Fuse. • Change DCPS board.
Display shows 'UL'	• Pan bracket is not on the balance. • Faulty Scanner board.	• Put pan bracket on the balance and then switch ON. • Change Scanner Board (please contact Citizen Service Center).
Display shows 'OL'	• Pan is loaded with weight more than its maximum capacity. • Faulty scanner board.	• Off load the extra weight on pan. • Change Scanner Board (please contact Citizen Service Center)
Cloudy Display	• Faulty Display Connector Cable. • Faulty display board.	• Change display connector cable. • Change display board.
Blink Display	• Faulty display connector. • Faulty DCPS board. • Faulty display board. • Auxiliary board ground.	• Change display connector. • Change DCPS board. • Change display board. • Change auxiliary board.
Halogen Continuously ON	• Faulty main-board.	• Change main-board.
Keypad Keys not working	• Faulty keypad.	• Change keypad.
Halogen does not lighten up	• Faulty FRC cables. • Faulty Halogen. • Faulty Thermal switch • Faulty ACPS board. • Faulty DCPS board. • Faulty Main board.	• Change FRC. • Check continuity of Halogen, if no continuity; change Halogen. • Change Thermal Switch. • Change ACPS board. • Change DCPS board. • Change Main- board.

Display shows “ERROR 52”	• Faulty FRC cables. • Faulty LM wire.	• Change FRC. • Contact Citizen Service Center.
Display shows “ERROR!! OPER-ATION TION TIME OUT”	• Balance is kept on unstable surface. • There is some touching in the balance.	• Keep balance in a stable and rigid surface.

5 SERVICE MENU

Switch on the device and, whilst the KERN logo is displayed,

press and hold the left arrow key [←] until *SERVICE* is displayed

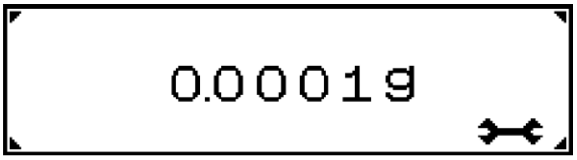


Then press the [START / STOP ↵] key, the balance will ask for the password as shown below:



Now enter the password '**1986**' using the keys on the keypad and press the [START / STOP ↵] key.

The display will show service weighing with higher accuracy than the balance weighing accuracy as shown below:



Then press the [MENU] key to enter the service menu

Now the display will show "LINEARITY" and by using [↑] and [↓] keys you can navigate to other sub-menus.

Below are the Service Sub-Menus:

- **1. LINEARITY**
  ➔ Start linearity adjustment
- **2. CALIBRATION**
  ➔ Start weight calibration
- **3. TEMPERATURE CALIBRATION**
  ➔ Start temperature calibration
- **4. TEMPERATURE**
  ➔ Shows temperatures of the coil and the temperature sensor in real time
- **5. AZT**
  ➔ Setting for auto zero tracking

5.1 Perform heater test (HEATER TEST)

⚠ CAUTION



Risk of burns from hot surfaces

Touching hot surfaces can cause burns and scarring

Parts of the device become very hot during temperature adjustment, heating tests and measurements. Therefore, never touch the lid, halogen lamp, glass parts, parts inside the chamber, tray and tray holder, or samples without wearing adequate protective clothing.

PERFORM TEST	Start heating test
MODIFY TEMP	Enter the temperature. Note: If a value has already been entered, the digits must first be deleted with **[TARE]** before a new entry can be made.

5.2 Display device information (BALANCE INFO)

The following information is displayed in this menu:

Model name

Serial

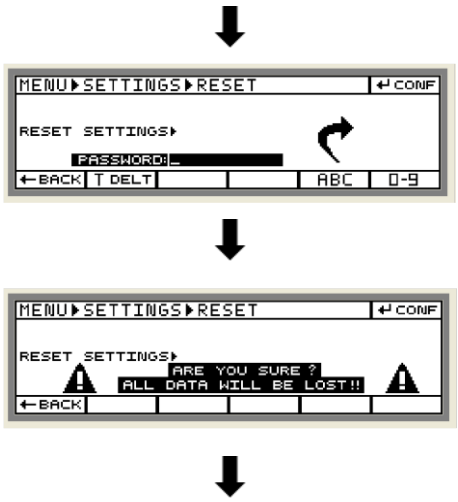
Software version

The data cannot be changed.

5.3 Reset device settings

NOTE

Deleted data cannot be recovered.



...

Select <RESET>.

Enter and confirm your password (**CITIMB200**).

The message <ARE YOU SURE? ALL DATA WILL BE LOST!!> appears.

Confirm.

The device is reset (the process takes approx. 20 minutes).

After resetting, the device returns to the menu.

6 CONFIGURATION AND ADJUSTMENT

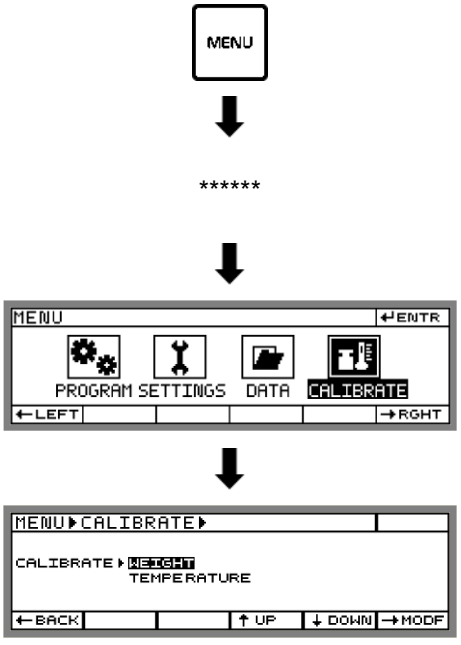
Weight adjustment of the integrated balance is not absolutely necessary for correct moisture determination, as this measurement is only relative. The instrument determines the weight of the sample before and after the drying process, and the moisture content is determined based on the ratio between wet and dry weight.

However, the instrument should be adjusted if required by the quality system you are using.

- Ensure stable environmental conditions. A warm-up time (see section 1) is required for stabilisation.
- Perform the adjustment with the sample dish in place. Ensure that there are no objects in the sample dish.
- Avoid vibrations and air currents.
- Perform the adjustment as close as possible to the maximum load. Information on test weights can be found at www.kern-sohn.com.

6.1 Adjusting the weight

Open adjustment settings:



Press [MENU]

If password protection has been activated: Enter password

Select <CALIBRATE>

Select <WEIGHT>.

The adjustment can be cancelled at any time with [RESET / EXIT] (<CALIBRATION ABORTED!!> is displayed). After cancellation, the device returns to <PERFORM CALIBRATION>.

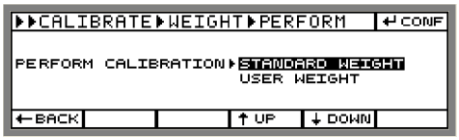
In the menu <MENU→ CALIBRATE→ WEIGHT>, [METHOD / BATCH] can be used to display the date of the last weight adjustment.

6.1.1 **Adjustment with standard weight**

Select adjustment method:



Select <PERFORM CALIBRATION>.



Select <STANDARD WEIGHT>.

Start calibration:



Remove any samples from the moisture analyser (otherwise an error message will appear).





The required adjustment weight is displayed.



Place the calibration weight in the centre.

As soon as a stable weight is reached, <CALIBRATING…> appears on the display.



Once the weight has been saved, <REMOVE THE CALIBRATION WEIGHT> and the zero display appear.

Remove the calibration weight within 45 seconds (after 45 seconds, an error will appear because the device cannot determine the zero range).



Once the weight has been removed and a stable value has been reached, <CALIBRATING…> appears.

The moisture analyser adjusts the zero display.



If the adjustment is successful, <CALIBRATION SUCCESSFUL!!> appears.

Error messages:

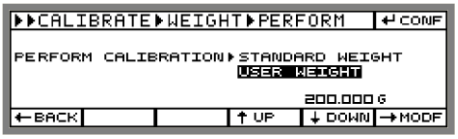
Display	Possible cause	Remedy
	Incorrect adjustment weight	Use the correct adjustment weight
	Error during adjustment	Restart adjustment

6.1.2 **Adjustment with user-defined weight**

Select calibration method:



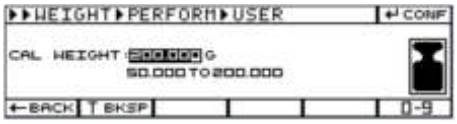
Select <PERFORM CALIBRATION>.



Select <USER WEIGHT>.

Enter the user-defined calibration weight.

Note: The adjustment weight may not exceed 25% of the maximum weighing capacity. If the weight entered exceeds this range, an error message will appear for 2 seconds. The weight must then be re-entered.



Start calibration:

…

The adjustment is then carried out as with the standard weight

6.1.3 **Calibration test**

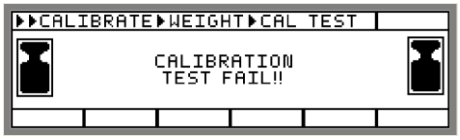
Select calibration test:



Select <PERFORM CALIBRATION>.

Start calibration test:

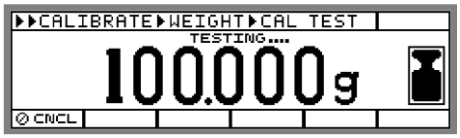




Remove any samples from the moisture analyser (otherwise an error message will appear).



The required calibration weight is displayed.



Place the calibration weight in the centre.

As soon as a stable weight is reached, <TESTING…> appears on the display.



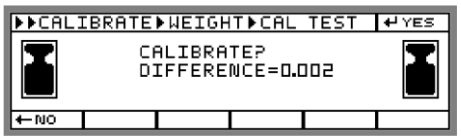
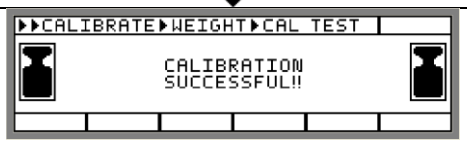
Once the weight has been saved, <REMOVE THE CALIBRATION WEIGHT> and the zero display appear.

Remove the adjustment weight within 45 seconds (after 45 seconds, an error will appear because the device cannot determine the zero range).

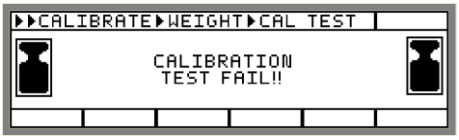


⇨ Once the weight has been removed and a stable value has been reached, <TESTING…> appears.

⇨ The moisture analyser tests the zero display.

⬇	
Variant A: Difference is < 3d  Variant B: Difference is > 3d  	⇨ After the adjustment test, the difference between the internal adjustment values and the adjustment weight is displayed. ⇨ In variant A, the difference is less than 3d. No adjustment is suggested. ⇨ In variant B, the difference is greater than 3d. An adjustment is suggested.
⬇	
 	⇨ Press [ENTER] to end the adjustment test and <CALIBRATION SUCCESSFUL!!> appears for 2 seconds. ⇨ The device then returns to the settings.

Error messages:

Display	Possible cause	Remedy
 	Incorrect adjustment weight	Use the correct adjustment weight
 	Error during adjustment test	Restart the adjustment test

6.1.4 **Assign adjustment weight ID**

This setting allows you to assign a number to the calibration weight. This number can be printed out with the report. This makes it possible to track which weight was used.

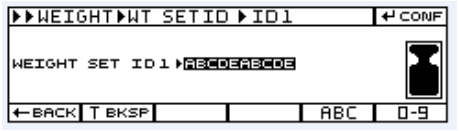
Enter ID:



Select <WEIGHT SET ID>.



Press [➔] to adjust the ID.



⇨ Enter ID and confirm with [START/STOP].



The device returns to the ID overview.

Select ID:



Select <WEIGHT SET ID>.



Select the desired ID and confirm with [START / STOP].



⇨ The selected ID is now active.

6.2 Adjusting the temperature

⚠ CAUTION



Risk of burns from hot surfaces

Touching hot surfaces can cause burns and scarring

Parts of the device become very hot during temperature adjustment, heating tests and measurements. Therefore, never touch the lid, halogen lamp, glass parts, parts inside the chamber, tray and tray holder, or samples without wearing adequate protective clothing.

A temperature calibration set is required to adjust the temperature.

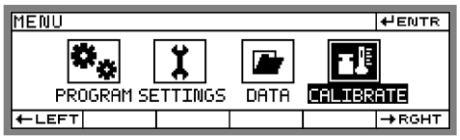
Open adjustment settings:



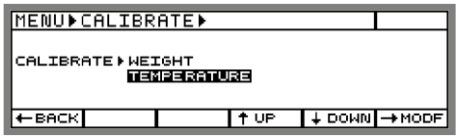
Press [MENU]

******

If password protection has been activated: Enter the password



Select <CALIBRATE>.



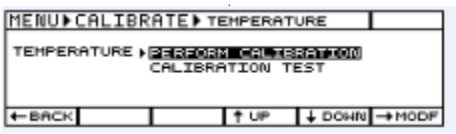
Select <TEMPERATURE>.

The adjustment can be cancelled at any time with [RESET / EXIT] (<CALIBRATION ABORTED!!> is displayed). After cancellation, the device returns to <PERFORM CALIBRATION>.

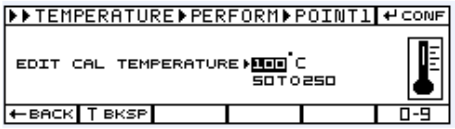
In the <MENU→ CALIBRATE→ WEIGHT> menu, the date of the last weight calibration can be displayed using [METHOD / BATCH].

6.2.1 **Perform temperature adjustment**

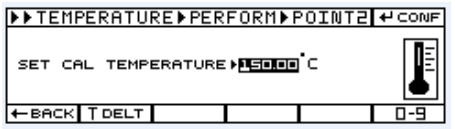
Start adjustment:



Select <PERFORM CALIBRATION>.



Enter the first temperature point. Note: If a value has already been entered, the digits must first be deleted with **[TARE]** before a new entry can be made.



Enter the second temperature point (as above).

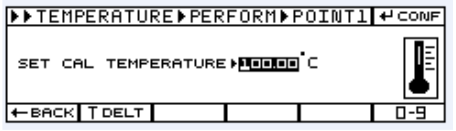


Press [START / STOP].

Calibration starts with temperature point 1.

After 10 minutes, the value must be read from the temperature calibration set and entered manually into the device (the last value entered is displayed by default).

Confirm the entry with [START / STOP].





Adjustment of the second temperature point is started.



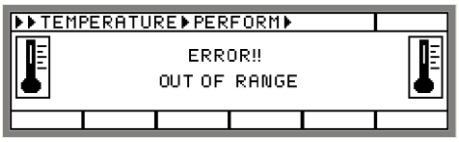
Enter the measured value from the temperature calibration set and confirm with [START / STOP].



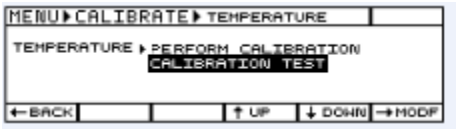
After confirming the second temperature point, <CALIBRATION SUCCESSFUL!!> appears and the adjustment is completed.

The adjustment can be started directly at <PERFORM CALIBRATION> with [START / STOP]. In this case, the last stored temperature points are used.

Error messages:

Display	Possible cause	Remedy
	The difference between the measured temperature and the temperature recorded by the system at one or both points is 20% or more.	Contact KERN service
	Error during adjustment	Restart adjustment

6.2.2 **Temperature adjustment test**



Select <CALIBRATION TEST>.



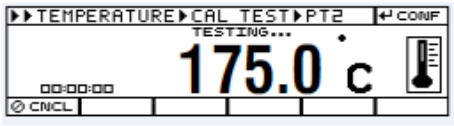
Press [START / STOP].

The adjustment test is started with temperature point 1 (temperature points are entered in <PERFORM CALIBRATION>

After 10 minutes, the value must be read from the temperature calibration set and entered manually into the device (the last value entered is displayed by default). Note: If a value has already been entered, the digits must first be deleted with **[TARE]** before a new entry can be made.



Press [START / STOP] to confirm the entry.

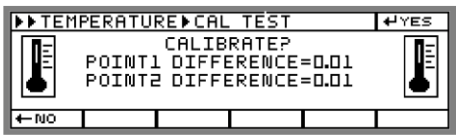


Adjustment of the second temperature point is started.



Enter the measured value of the temperature calibration set and confirm with [START / STOP].

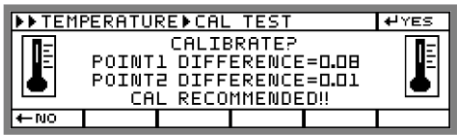
Variant A: Difference is < 1 %



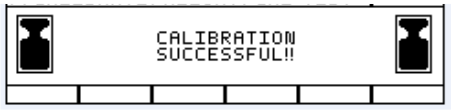
After the adjustment test, the difference between the internal temperature values and the measured temperature is displayed.

In variant A, the difference is less than 1%. No adjustment is suggested.

Variant B: Difference is > 1%



In variant B, the difference is greater than 1%. An adjustment is suggested.



Press [ENTER] to end the adjustment test and <CALIBRATION SUCCESSFUL!!> appears for 2 seconds.

The device then returns to the settings.

Error messages:

Display	Possible cause	Remedy
	The difference between the measured temperature and the temperature recorded by the system at one or both points is 20% or more.	Contact KERN Service
	Error during calibration test	Restart the calibration test

6.3 Linearity

In this sub-menu, linearity adjustment of the weighing system can be performed.

- Enter the Service Menu (refer section 5) and press the MENU KEY.
- Navigate to the "LINEARITY" sub-menu and press the START / STOP key. The display will show three linearity options as shown below:

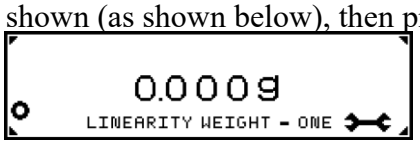
- All three options can be accessed by using ↓ key. To enter into any linearity mode i.e. LIN3, LIN5, LIN7 press START / STOP key.

6.3.1 LIN 3

- Press the START / STOP KEY to enter LINEARITY 3 and the display will show the first weight value (e.g. **0 g**).



- Remove all the weight from the Pan and wait for the stability to achieve.
- Once the stability is achieved, the stability symbol will be shown and once the stability symbol is shown (as shown below), then press the START / STOP KEY.



- Now it will show the second weight (i.e. 100.000 g' it is for example).

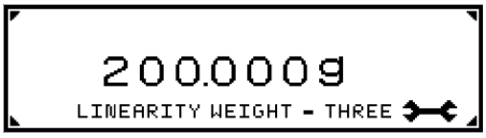


- Put 100g weight from the Pan and wait for the stability to achieve.

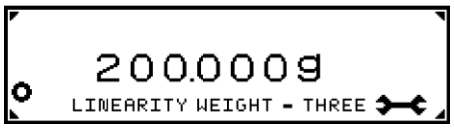


- Once the stability is achieved, the stability symbol will be shown and once the stability symbol is shown (as shown below), then press the START / STOP KEY.

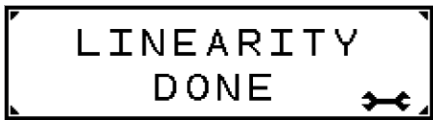
- Now it will show the third weight (i.e. 200g).



- Put 100g weight from the Pan and wait for the stability to achieve.
- Once the stability is achieved, the stability symbol will be shown and once the stability symbol is shown (as shown below), then press the START / STOP KEY.



- After the above step display will show as LIN DONE as shown below:



- After completion of Linearity the balance will again come to the LIN 3 sub-menu. Now press RESET / EXIT KEY two times to return to normal weighing mode.
- For other linearity options like LIN 5, LIN 7 the same procedure will be followed as explained above only the linearity weights will be changed. Some of the examples is given below:-

6.3.2 Linearity points for LIN 5

0, 50, 100, 150, 200

6.3.3 Linearity points for LIN 7

0, 40, 80, 120, 160, 200, 220

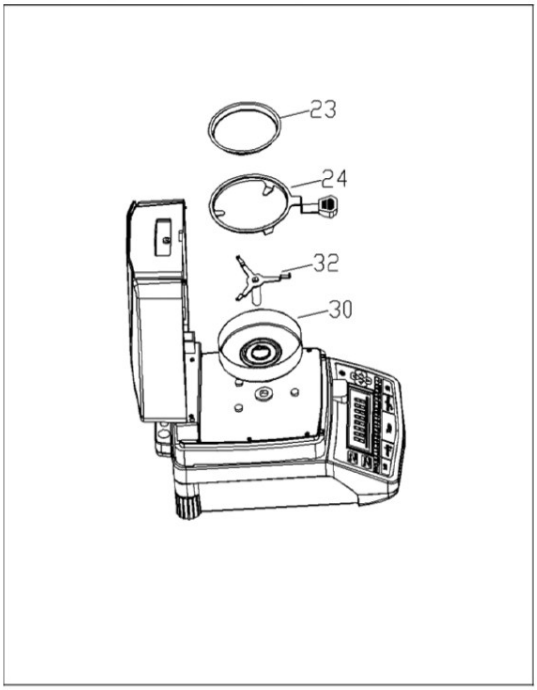
NOTE: - In any moment if the user wants to abort the present process press RESET / EXIT ***key.***

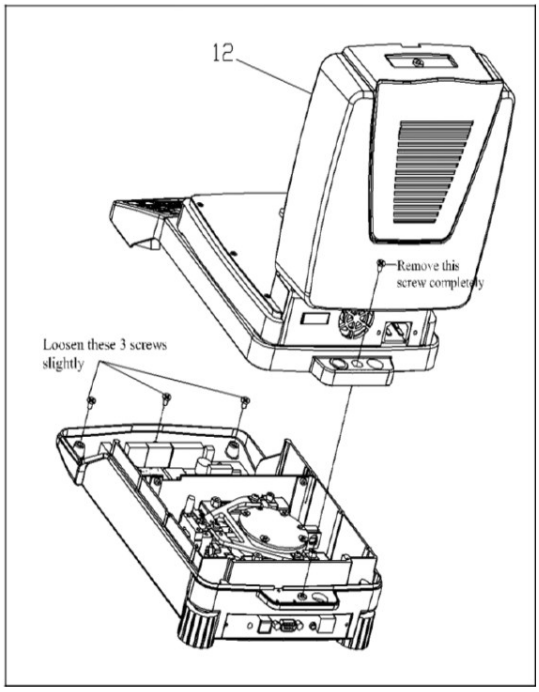
7 REPLACING PARTS

Moisture Analyzers are divided into three main parts named as Upper Chamber, Lower Chamber and Bottom Body. For better understanding and overview these parts and the spare parts related to this, it is advisable to refer exploded view diagrams. The exploded view diagrams.

7.1 Opening the balance

- Remove the power supply
- Raise the upper chamber
- Remove disposal pan, pan handler, pan bracket and pan cover.
- Unscrew the screw on the back side near level indicator.
- Press slightly the top part towards you and lift it up to remove it from the bottom body.
- Then disconnect the display connector, different connections with the Main board & DCPS board.
- Remove the top part from the bottom body.

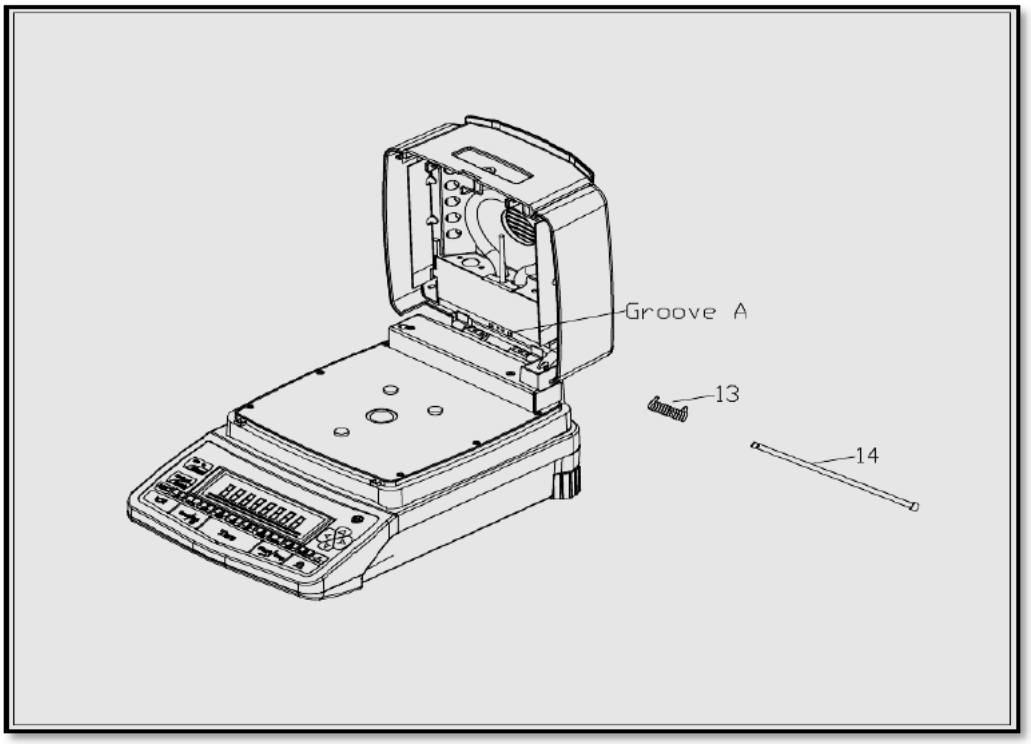




7.1.1 Closing the balance

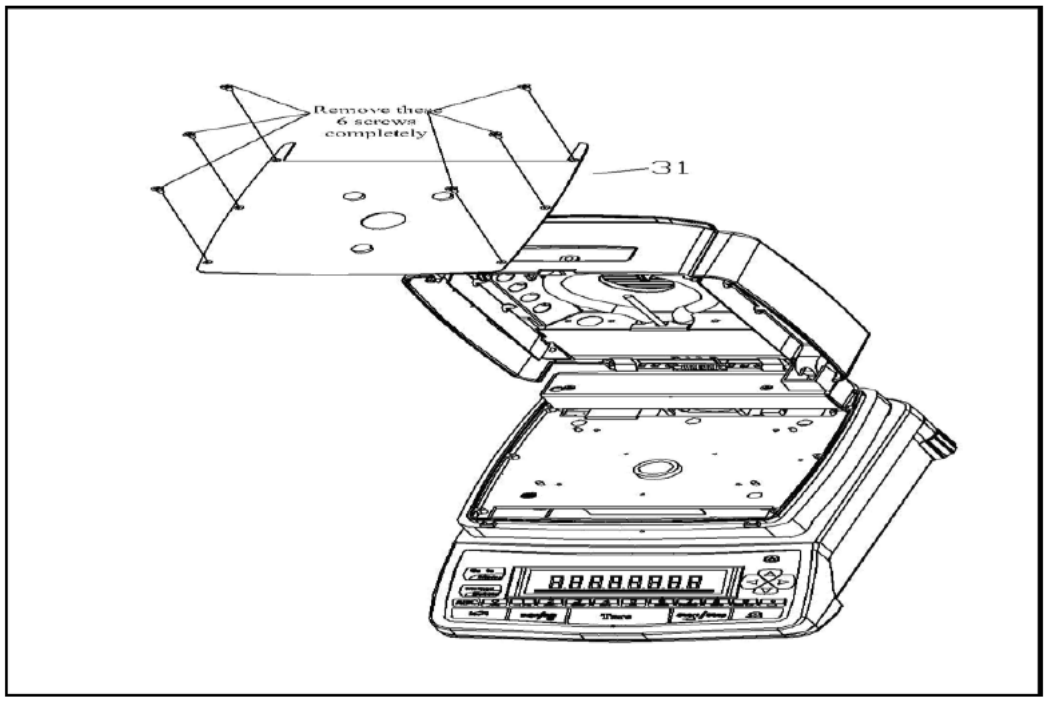
- Attach all the cables to the Main-Board and DCPS Board.
- Match the grooves provided in the top part with the screws in the bottom body.
- Then press it slightly forward and screw it firmly.
- Put the chamber cover, pan handler, pan bracket and then disposal pan.
- Check the functionality of the balance.

7.2 Repair Axle Rod and Axle spring



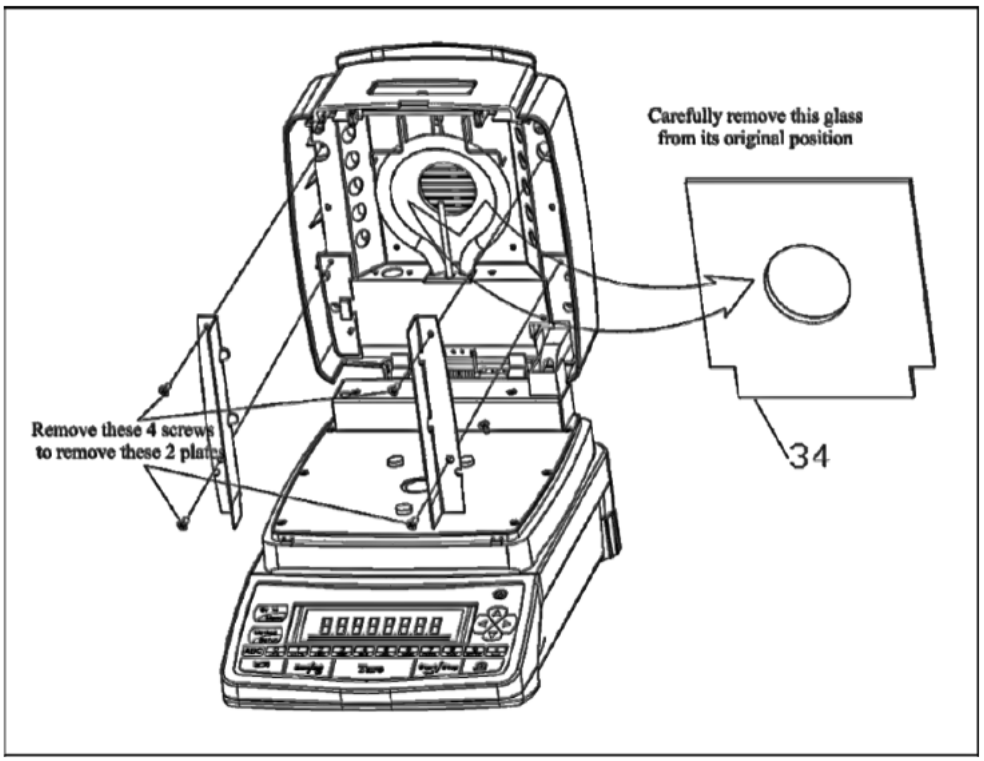
- Lift up the upper chamber.
- Push the lower head of the axle rod by a pointed head of screw driver.
- Pull the upper head of the axle rod to remove it from the groove.
- Then remove the axle spring.
- Put the new axle spring on the grooves (a) provided in the lower chamber and upper chamber.
- Now put the Axle rod in the grove (b) present in lower and upper chamber.

7.3 Replace Chamber Basis Insert



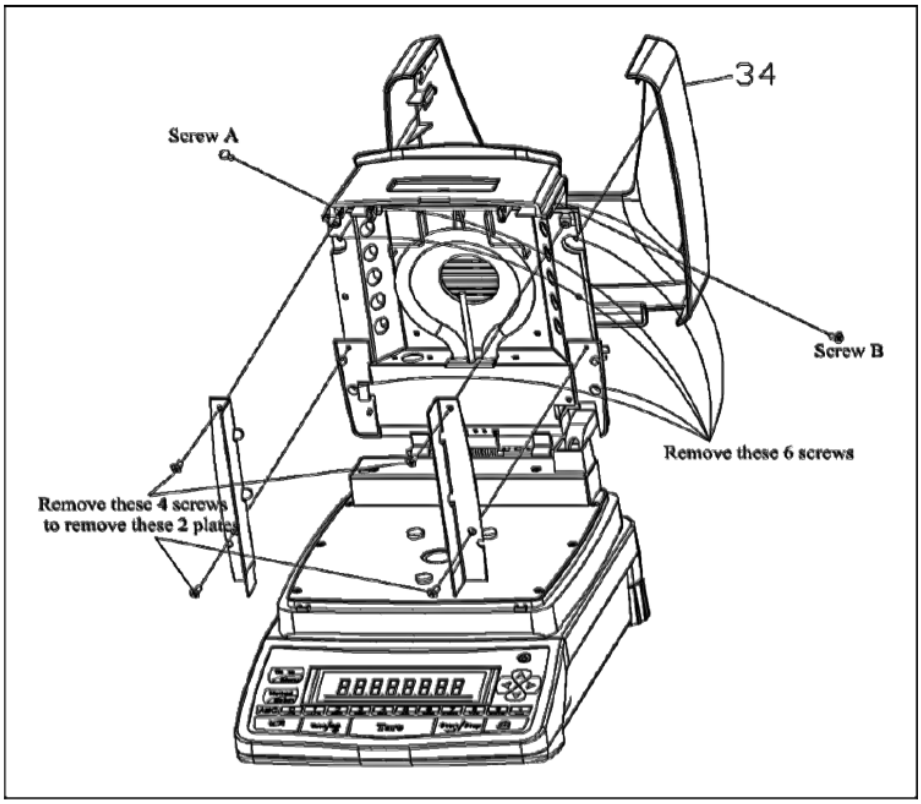
- Lift up the upper chamber
- Remove Pan, Pan Support, Pan-holder and Chamber Cov-er.
- Unscrew the 6 Allen screws with a 3mm Allen key.
- Now replace with new part and screw the 6 Allen screws.

7.4 Replace Lamp Glass



- Lift up the upper chamber.
- Unscrew the screen 4 and 5 and remove the screens.
- Now remove the Lamp glass.
- Replace it with new part and place it on the provided slot.
- Now, screw the screen 4 and 5.
- Opening and Replacing the Upper Chamber Cover

7.5 Opening and Replacing the Upper Chamber Cover



- Remove the lamp glass.
- Unscrew the 4 screws located in screen 1.
- Unscrew the screw (a) and (b).
- Pull the body cover in upward direction.
- Fit the new part and screw the screen 1.
- Screw the screws (a) and (b).
- Then put the lamp glass.

7.6 Opening and Closing the lower chamber

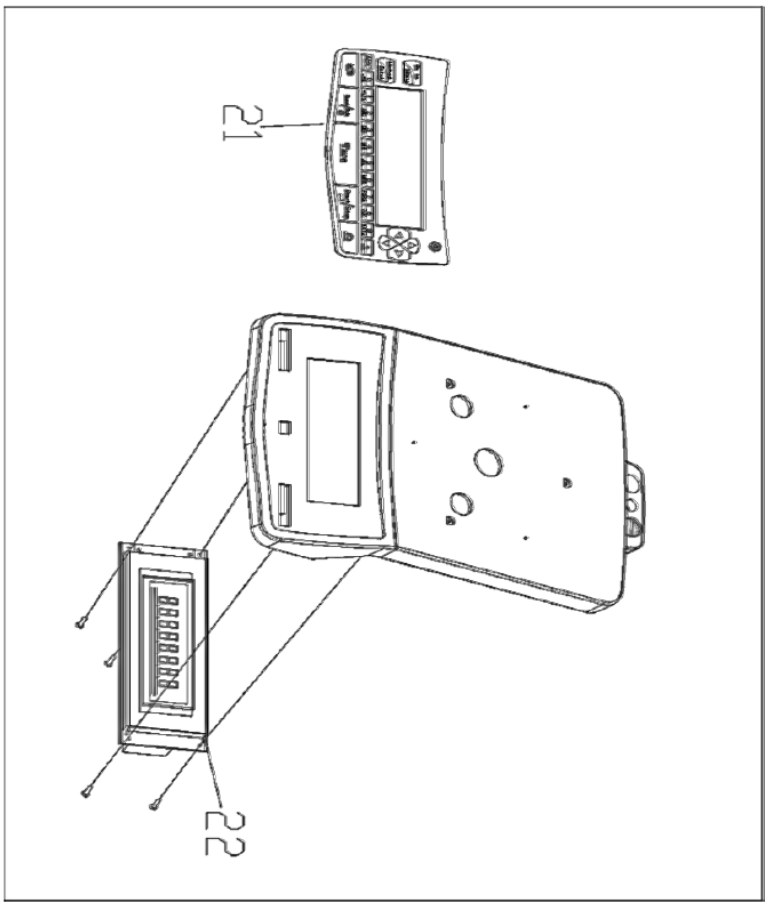
OPENING

- Open the balance.
- Unscrew the 5 screws fitted in the back side of the top body.
- Remove the groove nut.
- Remove the lower chamber from top part.

CLOSING

- Attach the groove nut.
- Attach the top part to the lower chamber with the screws from the back side.
- Close the balance.

7.7 Replace LCD and Keypad



Open the balance

Replace LCD

a. Unscrew the 4 screws present on the back side of top body.

b. Then remove the LCD.

c. Put the new part in the same place.

d. Then screw it in the top part.

e. Close the balance.

Replace Keypad

a. Remove the keypad stick on the front part of top body.

b. Put new keypad with connector.

c. Bring the connector downward from back side of top body through the groove provided on the front part.

d. Stick the keypad on the front part of top body carefully.

e. Connect the Keypad connector and other connections to the Main Board.

f. Close the balance.

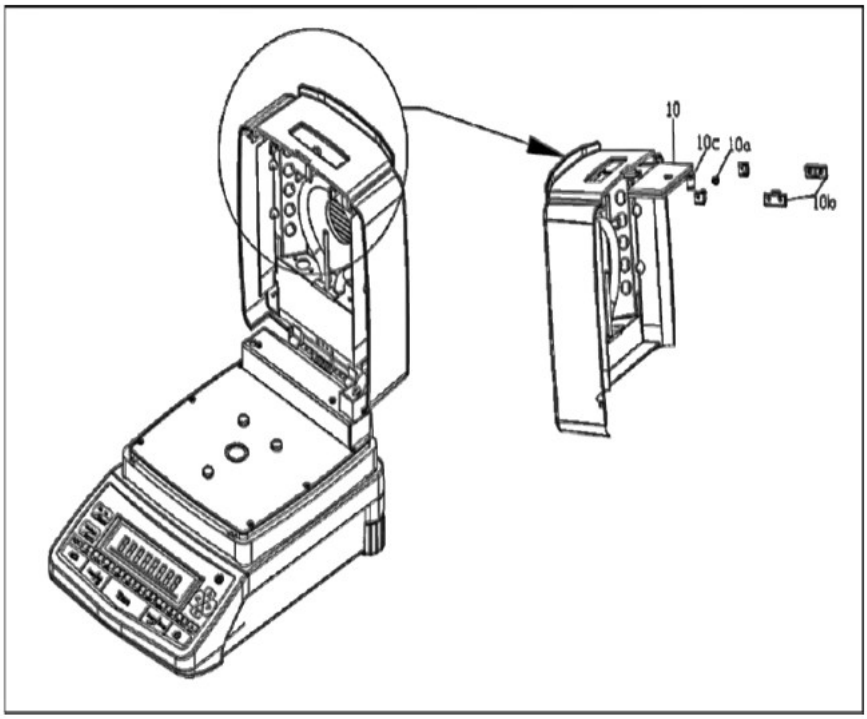
7.8 Replace Magnet Shoe

- Raise the Upper Chamber.
- Then use a plier to remove the magnet shoe from the upper chamber.
- Now apply a strong adhesive on the groove(a) in the upper chamber
- Then insert the new magnet shoe in the groove and left it as it is for some at least 5 minutes.

7.9 Replace Top Body

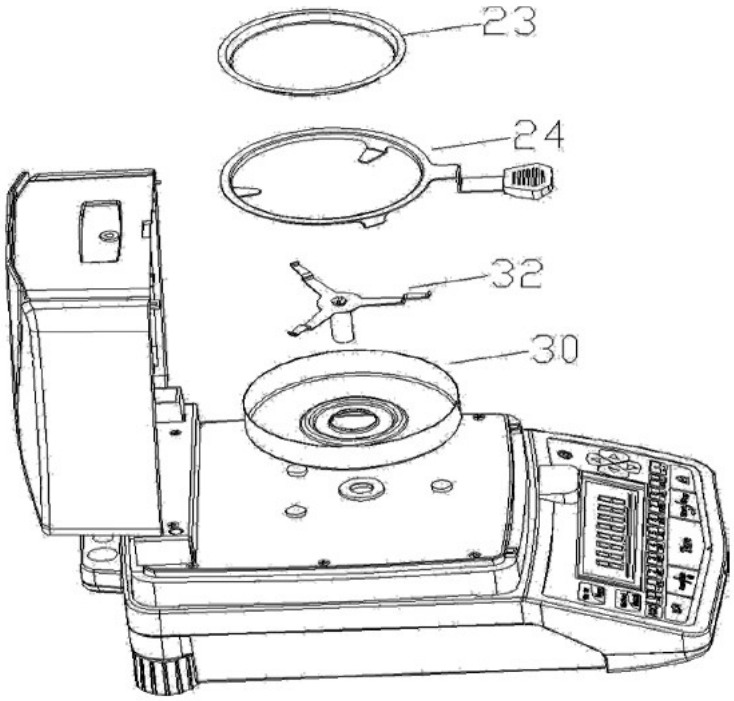
- Open the balance.
- Separate lower chamber from top body.
- Now replace it with new part.
- Screw it to lower chamber.
- Then close the balance.

7.10 Replace Front Glass



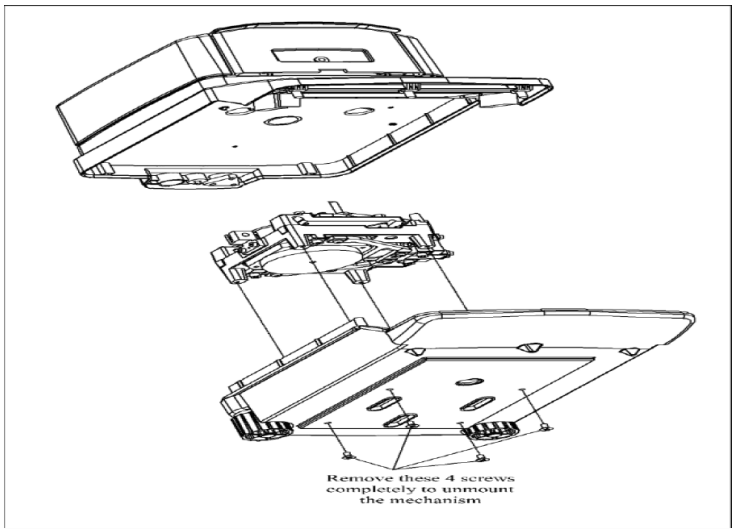
- Raise the Upper chamber.
- Unscrew the Left-Right Clamps (10b).
- Take the front glass assembly outside the provided slot.
- Then remove the Circlip (10a) and the ABS Spacer (10c).
- Exchange the set of front glasses with the new part.
- Fit the Circlip (10a) and ABS Spacer (10c).
- Now insert the assembly in the slot pro-vided.
- Then screw Left-Right Clamps (10b).

7.11 Replace Pan, Pan Handler, Pan Bracket & Chamber Cover



- Disconnect the power supply.
- Raise the upper chamber.
- Remove the pan, pan handler and pan brack-et.
- Now, remove the chamber cover by slightly lifting it up.
- Now replace the pan or pan handler or pan bracket or chamber cover.
- After replacing the chamber on the ex-truded slots given on the chamber basis in-sert.
- Then put pan bracket, pan handler and pan.

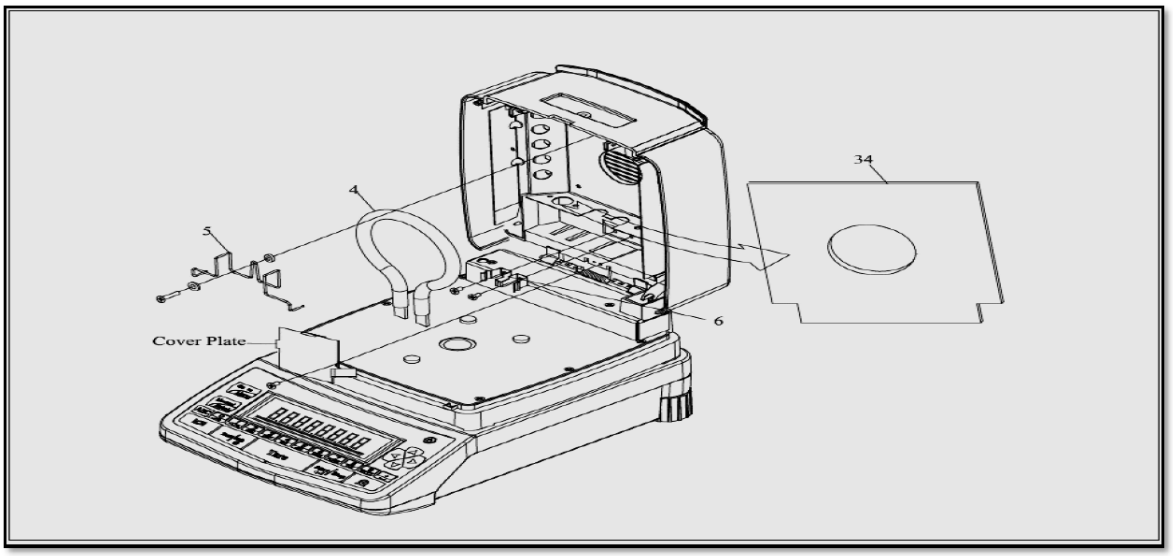
7.12 Remove Mechanical Body from Bottom Part



- Open the balance.
- Disconnect the all connections from Mechanical Body and Main board.
- Now unscrew the four screws on the back side of bot-tom body.
- Remove the Mechanical Body from the bottom body.

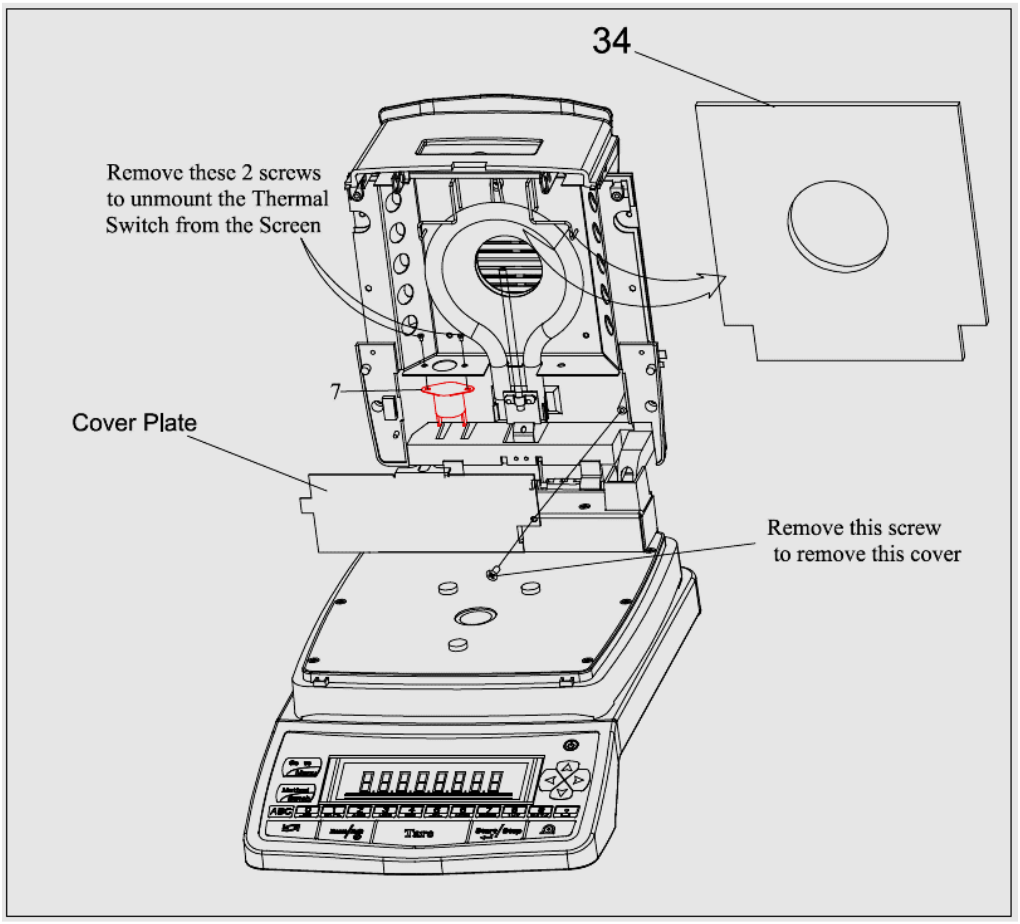
7.13 Replace Halogen

- Raise the Upper Chamber.
- Open the balance.
- Open the lower chamber.
- Remove lamp glass.
- Unscrew the cover plate and remove it.
- Unscrew Halogen lamp locking screw.



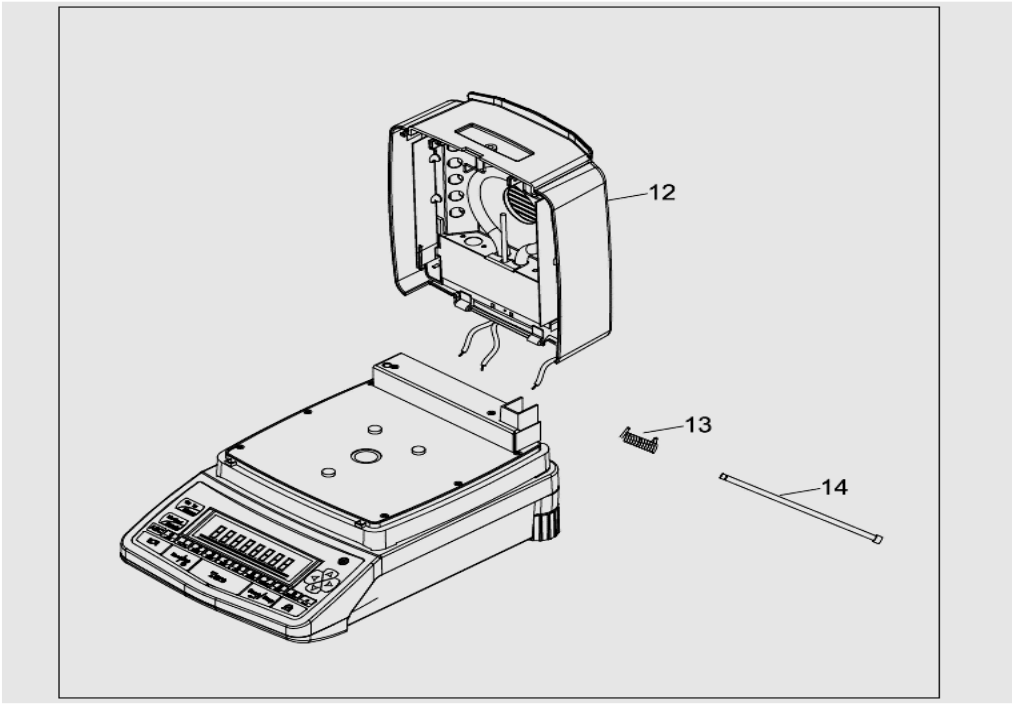
- Remove the RTD support plate.
- Disconnect the left hand side connection cable of Halogen with the thermal switch.
- Disconnect the connection of right-hand side connection cable from MB-ACPS board (re-fer diagram 4.4 for connections).
- Now remove the halogen and replace with new one.
- Connect the all connections in MB-ACPS and thermal switch.
- Attach the RTD support plate and cover plate.
- Attach the lamp glass firmly.
- Close the lower chamber.
- Close the balance.
- Do temperature calibration.

7.14 Replace Thermal Switch



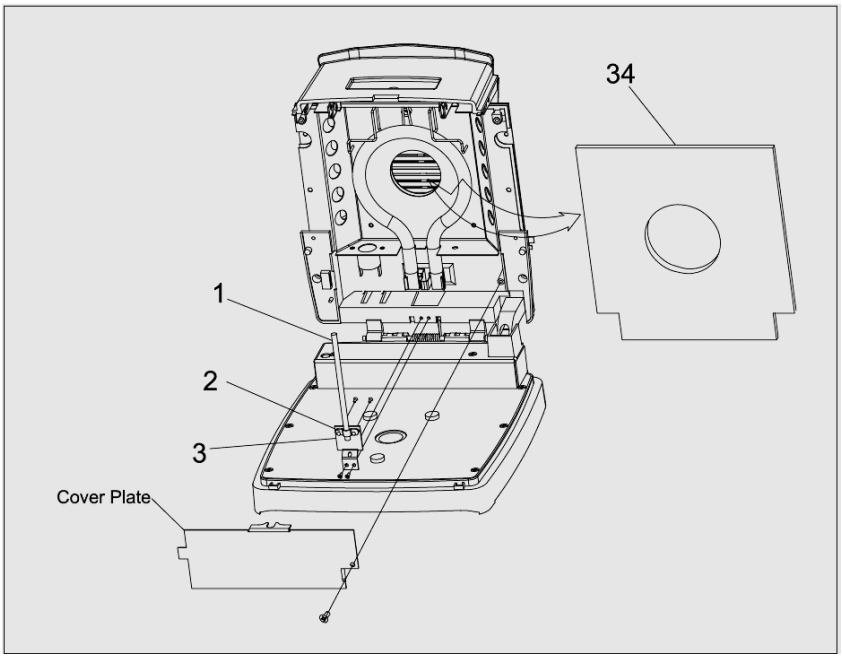
- Open the balance.
- Remove the lamp glass.
- Unscrew the cover plate and remove it.
- Now disconnect the cramping lugs from the thermal switch and the halogen connection.
- Unscrew the two screws used to fit the thermal switch (7).
- Replace it with the new part and screw it with the two screws.
- Now, connect the cramping lugs and the connection of Halogen.
- Put the lamp glass.
- Close the balance.

7.15 Separate Upper Chamber from Lower Chamber



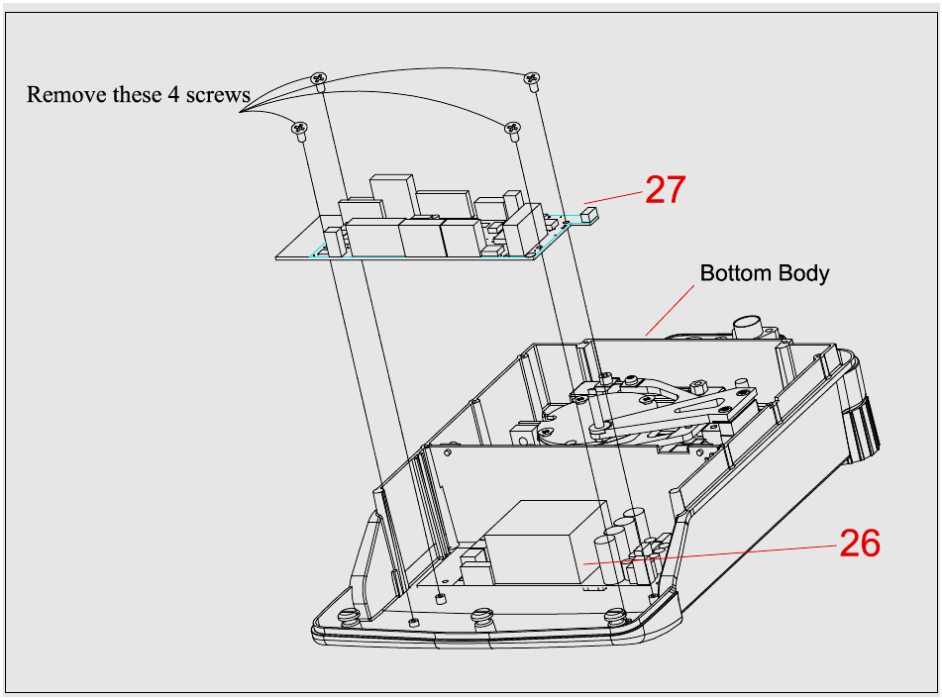
- Open balance.
- Open lower chamber.
- Disconnect the connections of Thermal Switch, Halogen and Earth wire from the boards of lower chamber.
- Now remove the Axle rod and Axle spring to separate the upper chamber from lower chamber.

7.16 Replace RTD



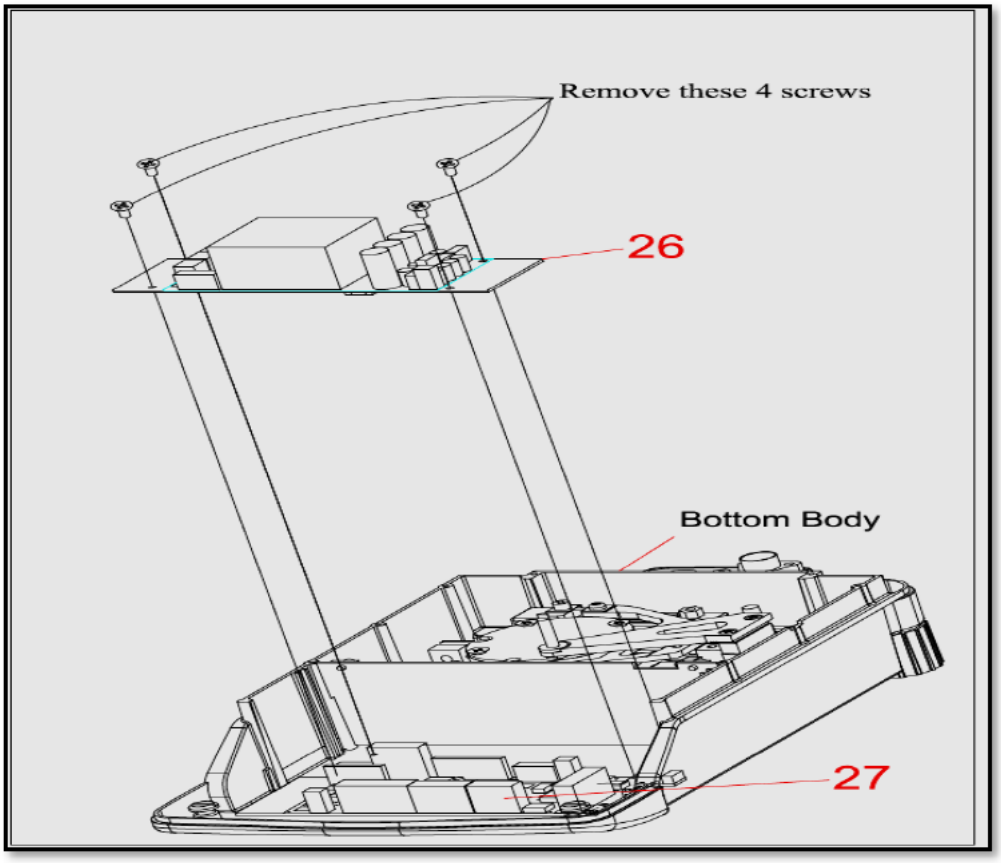
- Open balance.
- Remove lamp glass.
- Separate lower chamber from top body.
- Disconnect the connection of RTD from CSW board.
- Unscrew the cover plate and remove it.
- Unscrew the RTD support plate and RTD clip to remove the RTD.
- Replace it with new part.
- Screw RTD support plate and RTD clip.
- Connect the connection of RTD with CSW board.
- Fix lower chamber to the top body.
- Close the balance.
- Do temperature Calibration.

7.17 Replace Main Board



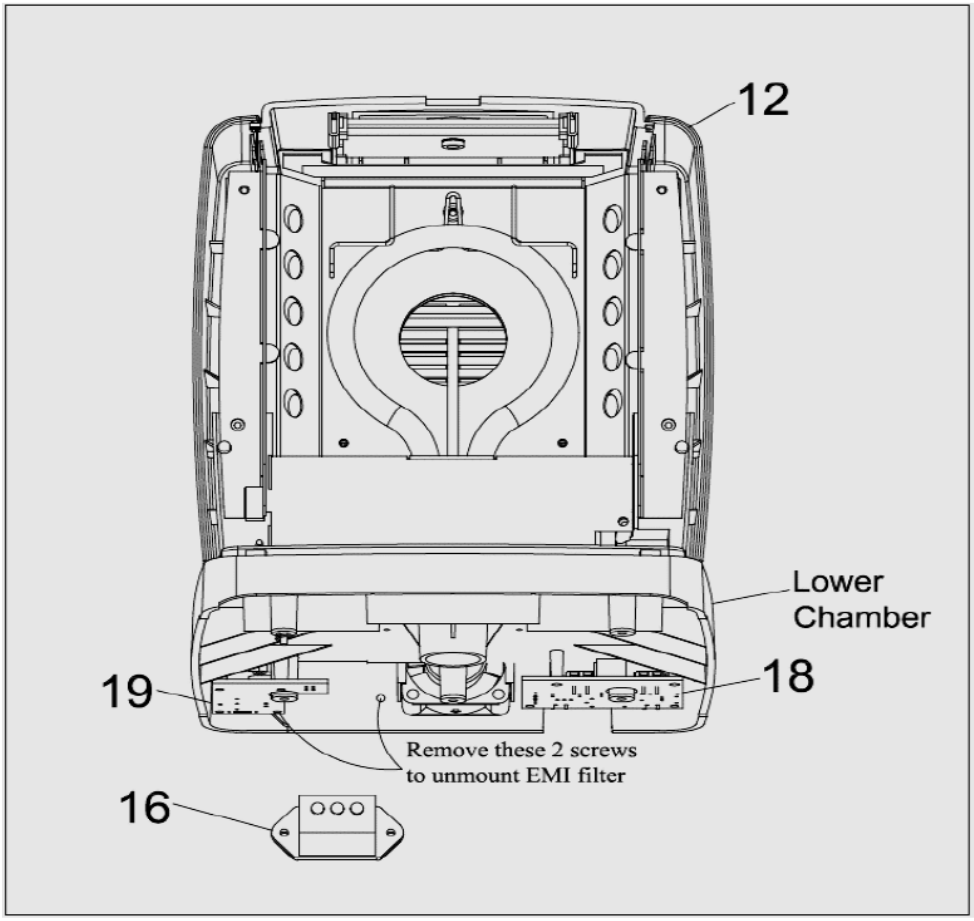
- Open the balance.
- Unscrew the 4 screws used to fix the Main-Board to the bottom body.
- Pull the Main- Board upward.
- Now replace with the new part and screw it to the bottom body firmly.
- Close the balance.
- Check the balance for proper functionality and performance.
- Do temperature calibration.

7.18 Replace DCPS Board



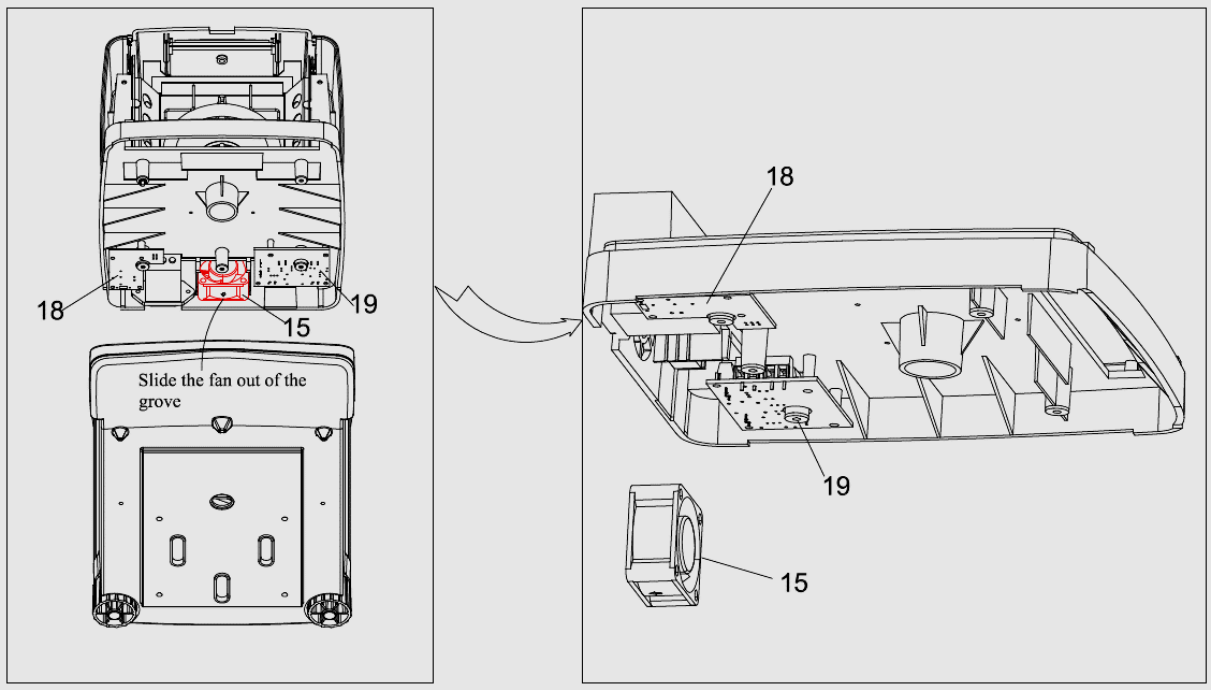
- • Open the balance (refer5.2.1)
- • Unscrew the 4 screws used to fix the DCPS board to bottom body.
- • Pull the board upward.
- • Replace it with the new part and screw it to the bottom body firm-ly.
- • Close the balance (refer 5.2.2).
- • Check the balance for function-ality.

7.19 Replace EMI Filter



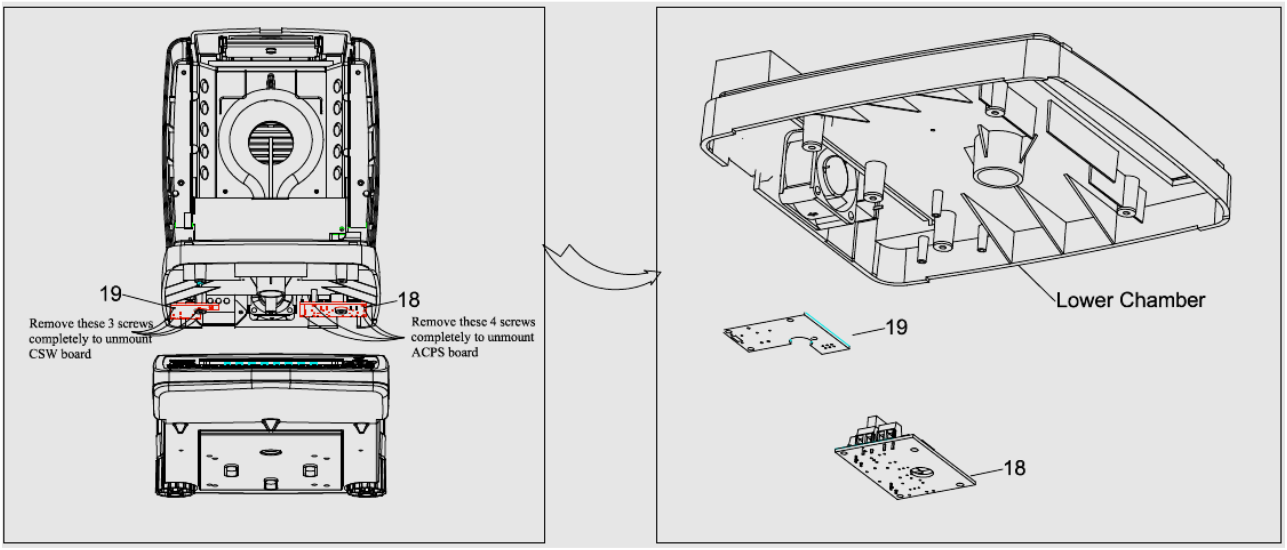
- Open the lower chamber.
- On the back side of the chamber disconnect the connections of EMI filter.
- Now replace it with the new part.
- Connect the different connections of EMI Filter with the boards.
- Close the lower chamber.
- Check the functionality of balance.

7.20 Replace Fan



- Separate lower chamber from top body.
- Disconnect Fan from ACPS board.
- Unscrew fan from the lower chamber.
- Replace it with the new part.
- Screw the fan in the lower chamber and attach the connec-tion cable with the ACPS board.
- Attach lower chamber to top body refer.

7.21 Replace CSW & ACPS Board

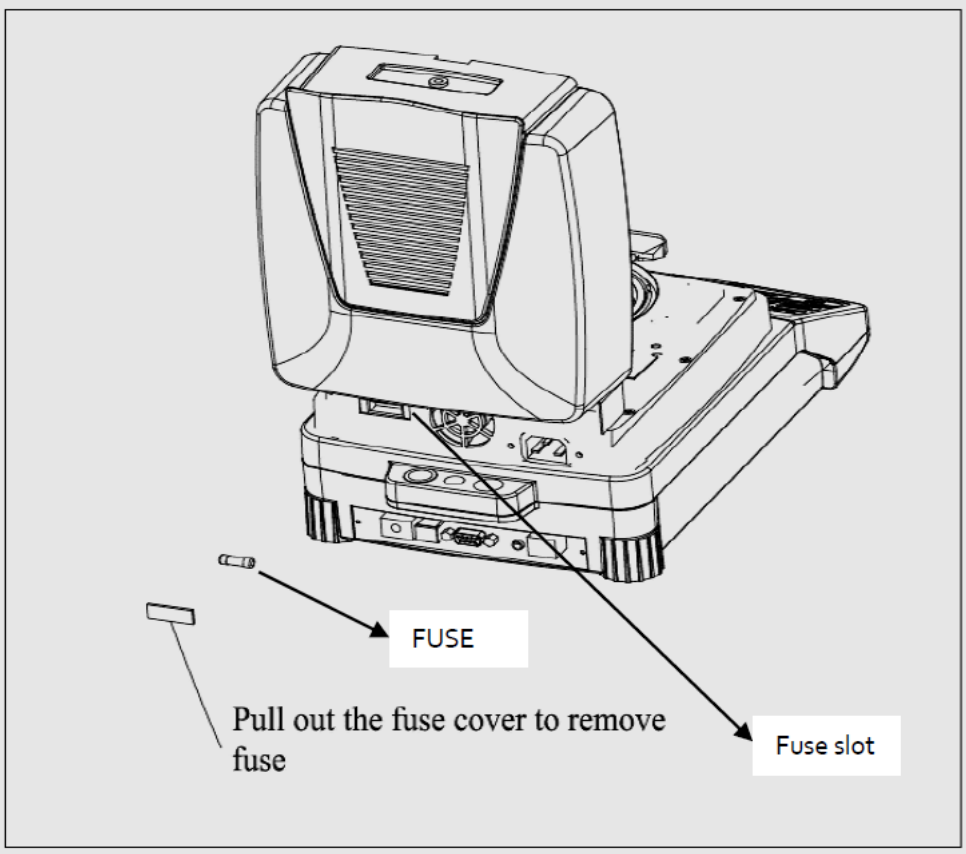


- Separate lower chamber form top body.
- Disconnect different connections attached to CSW board.
- Unscrew the screws used to fit the CSW and ACPS board to lower chamber.
- Replace it with the new board.
- Screw the board firmly.
- Attach the lower chamber to the top body.
- Check the balance for functionality

7.22 Replace the Display Connector

- Open the balance.
- Detach the connecting cable of display at the back side of top part.
- Attach the new cable in the same slot.
- Close the balance.

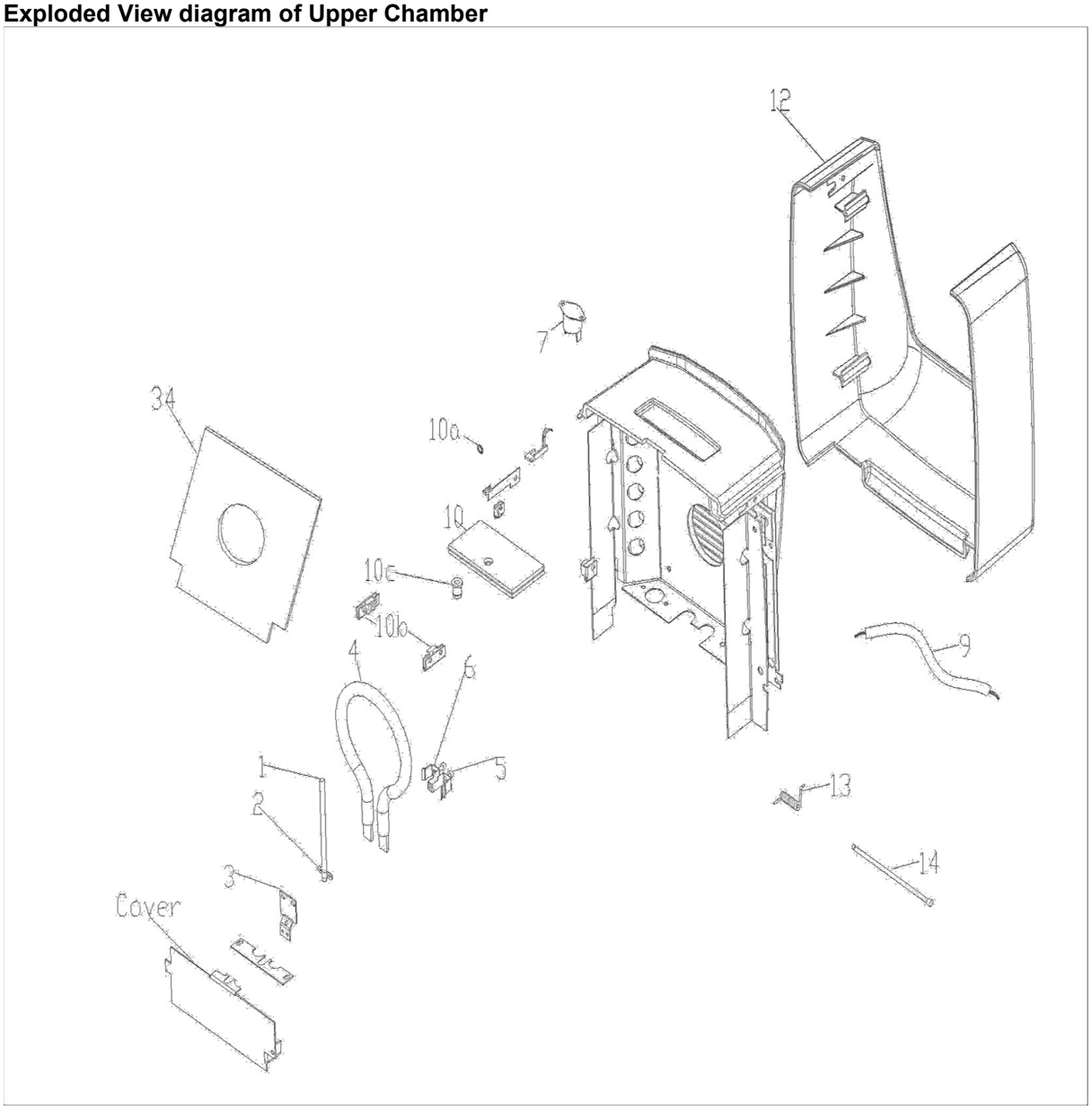
7.23 Replace Fuse



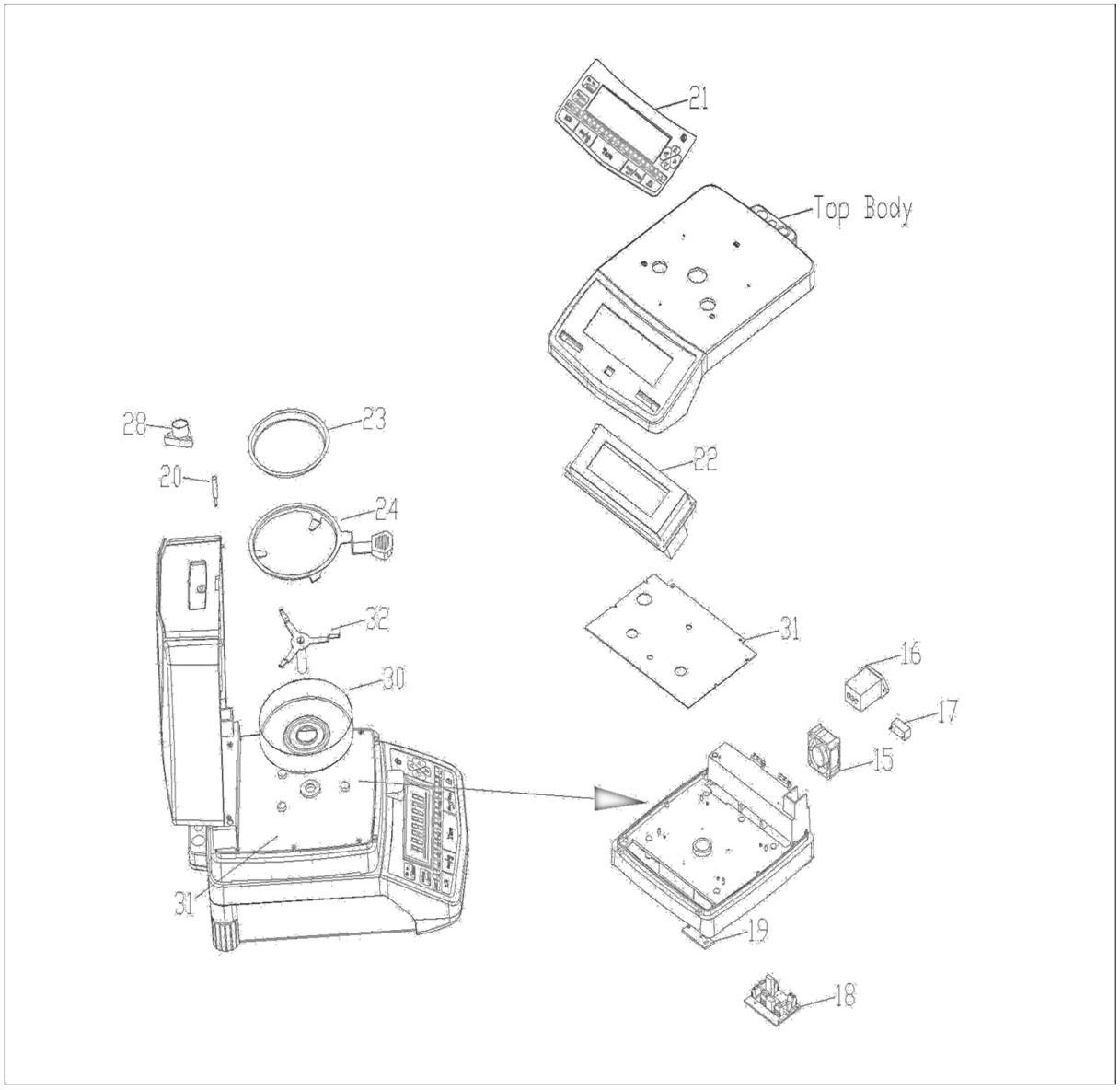
- Power OFF the balance.
- Move the balance to access back side of the body.
- Now access the fuse slot given in the back side of the balance.
- Pull the fuse cover and then take out the fuse.
- Replace it with the new one.
- Put the new fuse and close the fuse cover.

8 EXPLODED VIEW

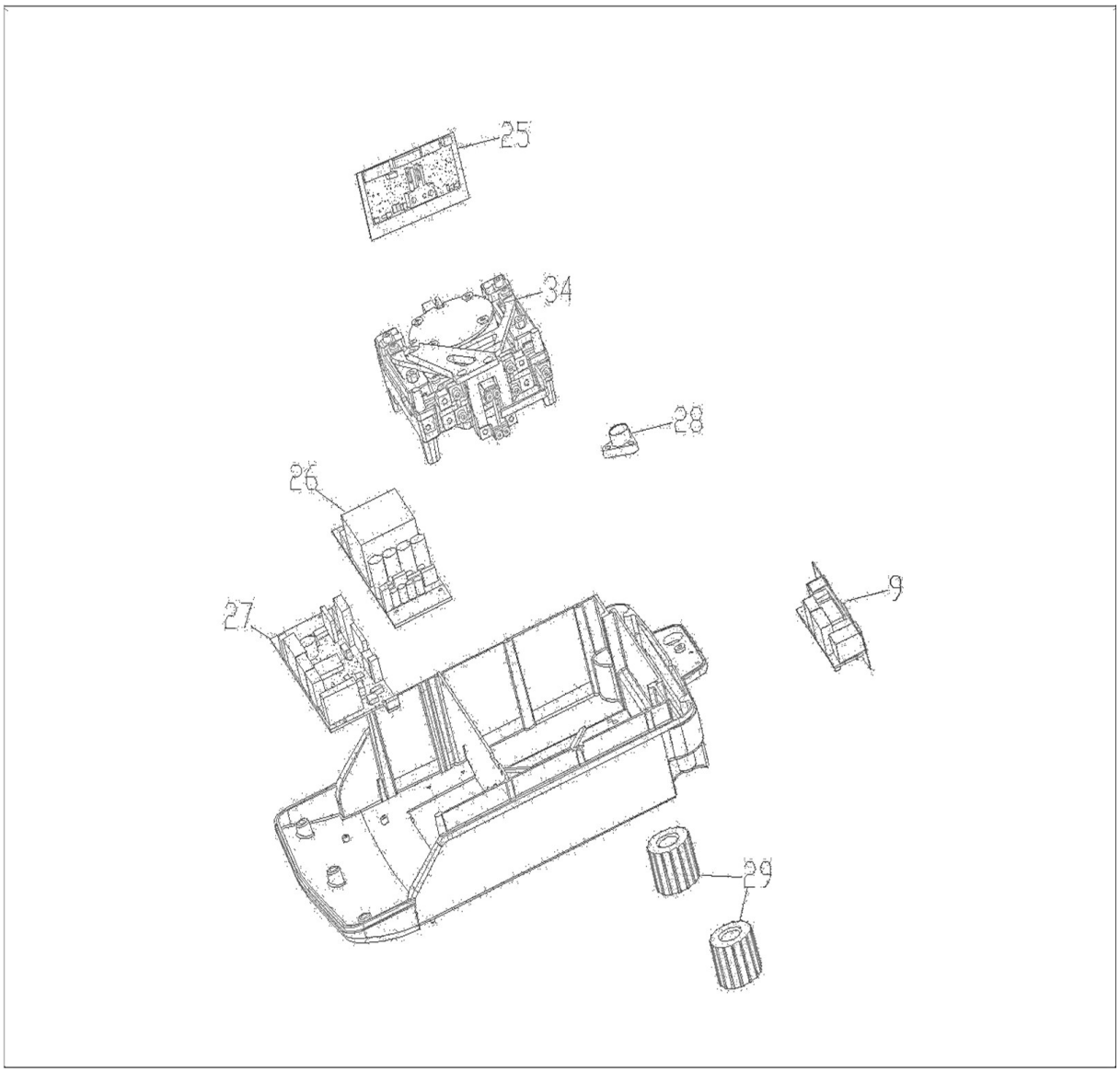
Exploded View diagram of Upper Chamber



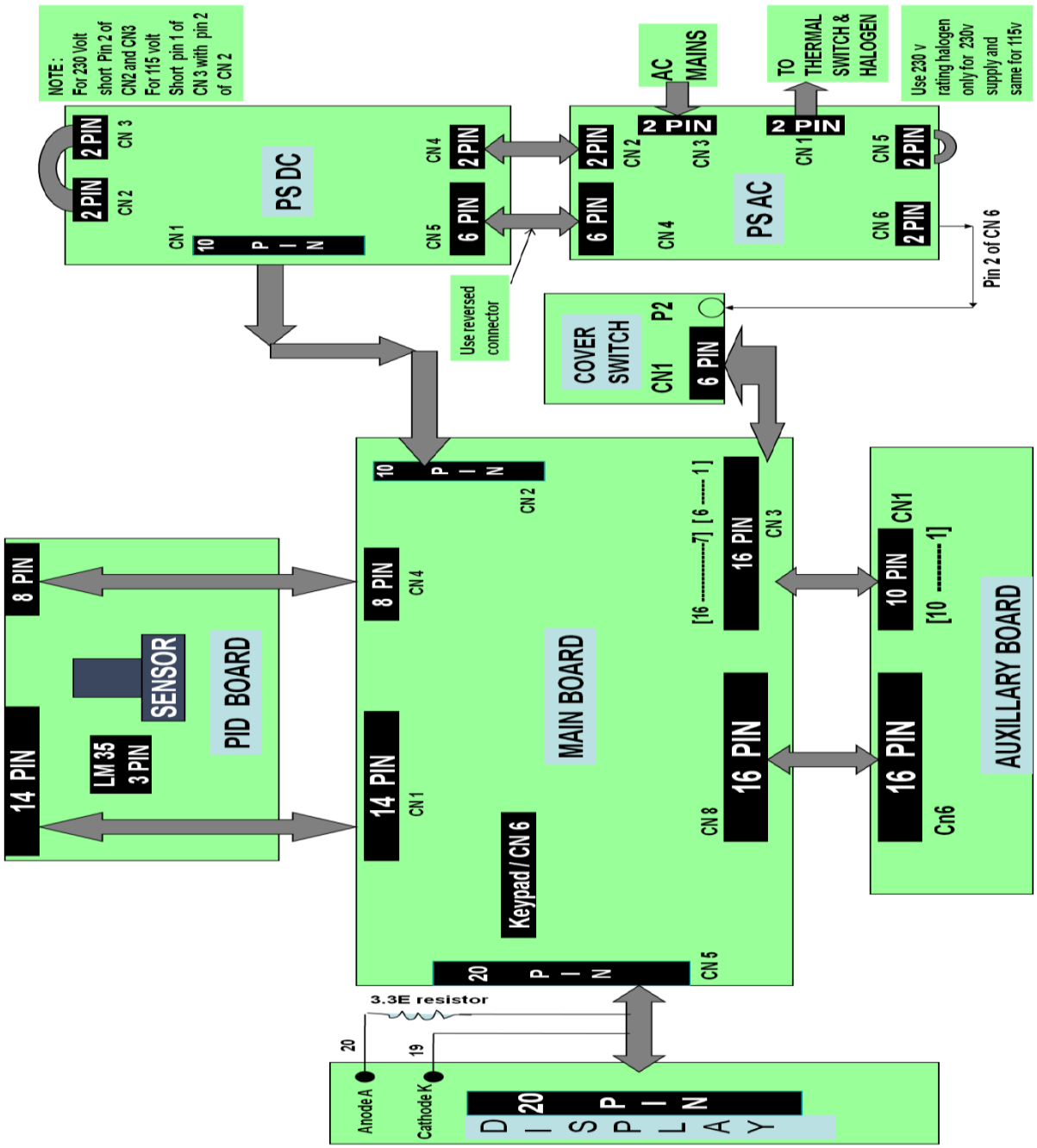
Exploded View Diagram of Lower Chamber



Exploded View Diagram of Bottom Body



Explode View Diagram of Electronic Circuit



9 SPARE PART LIST

Article no.	Description	
822-903	Power cord (UK) Input:	
RTDIS-1001	Measurement system for TDIS-A	
RTDIS-1002	Lower Guide für TDIS-A	
RTDIS-1003	Flexure bearing	
RTDIS-1004	Drawstring	
RTDIS-2001	Main board for TDIS-A	
RTDIS-2002	Display board for TDIS-A	
RTDIS-2003	Circuit board for fan and temperature sensor	
RTDIS-2004	Board, sensor for TDIS-A	
RTDIS-2005	Power supply board	
RTDIS-2006	Board, interface for TDIS-A	
RTDIS-4001	Keyboard overlay	for TDIS 120-3-A,TDIS 120-3HT-A
RTDIS-4002	Keyboard overlay	for TDIS 50-4-A,TDIS 50-4HT-A
RTDIS-5001	Earthing Cable	
RTDIS-5002	Temperature sensor	
RTDIS-5003	Switch	
RTDIS-8001	Housing	
RTDIS-8002	Glass	
RTDIS-8003	Cover	
RTDIS-8004	Cover	
RTDIS-8005	Draft shield ring for TDIS-A	
RTDIS-8006	Level indicator for TDIS-A	
RTDIS-8007	Cover for TDIS-A	
RTDIS-8008	Adjustable foot	
RTDIS-8009	Adjustable foot	
RTDIS-9001	Halogen lamp	
RTDIS-9002	Mounting	
RTDIS-9003	Fuse	
RTDIS-9004	Mounting	
RTDIS-9005	Feder / Spring	
RTDIS-9006	Ventilator for TDIS-A	
RTDIS-9007	removal aid for TDIS-A	
RTDIS-9008	Sample plates holder for TDIS-A	
RTDIS-9009	Mounting	
TYBA-A23-A	Protective working cover (1 pieces) (front) for TDIS-A, TYBA-A23S05-A A PET, Transparent, r...	
YKK-01	Cold-device cable CH	for TDIS 120-3-A