OWNER'S MANUAL

ELECTRONIC SCALE

QC-SERIES

BEFORE OPERATING THIS SCALE, PLEASE READ THIS MANUAL THOROUGHLY.

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IMPORTANT WARNINGS

1. In case have problema wiht the scale, firts read the warranty condiction.

2. Do not open the scale on your own. Your warranty will be canceled.

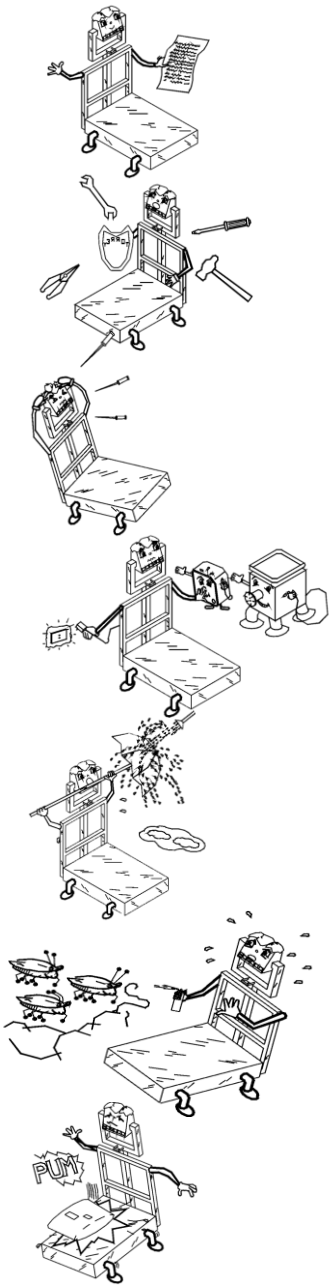
3. Never prees the keyboard wiht object such as pencils, pens, knifes, etc.

4. Use a Vac outlet exclusive for the scale. Avoiding overload or voltaje variations.

5. Never wash the scale using a flow of wáter. This can damage the electronic components. For more information read “Maintenance and cleaning” section.

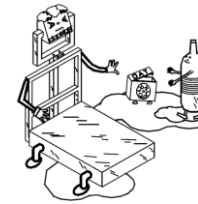
6. Protect the scale from insects (mainly from roaches), they can seriously damage to electronic components. Use solid products againts roaches.

7. Do not drop or hit the scale wiht nthe product to be weighted because as time goes by it will damage the weight sensor.

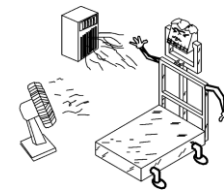


IMPORTANT WARNINGS

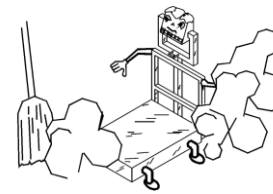
8. Do not use solvents or detergents for cleaning only use damp rage.



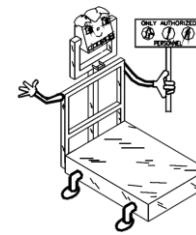
9. Do not place fans or heaters directed towards the scale.



10. Do not place the scale where there is a lot of moisture and/or dust.



11. Only autorized and qualified personnel should check and repair your scale.



IMPORTANT!

Battery should be recharged for 10Hrs before using the scale for the first time.

WARNING!

Do not open the scale

Caution: to reduce the risk of short circuit in your scale, do not remove the cover or sustitute any of the parts for others that are not original only authorized distributor..

INTRDOCUTION

Dear customer:

We appreciate you have chosen this product and we assure you will get the maximum satisfaction of the new acquisition for your business.

We suggest to read carefully this manual and make sure to keep it at hand for later consultations.

INTRUCTIONS FOR INSTALLTION

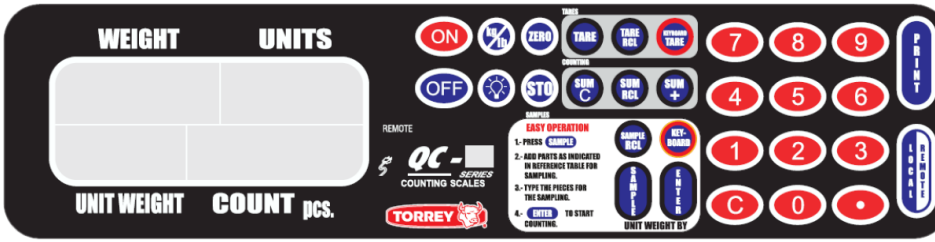
1.Unpack the scale and check the conditions of the product. If it is damaged report it immediately to your authorized distributor.

2.-Place the scale where there is not any movement or vibration. Make sure it is leveled adequately.

3.-Connect the AC/DC power supply to 120 or 220 vac outl et And plug in the jack onto the scale

4.-Turn the scale on and wait until the countdown Sequence will display zeros, after that it will be Ready to use.

NAME AND LOCATION OF IMPORTANT PARTS



1. ON OFF Keys: press the ON key to turn the scale on and the OFF key to turn the scale off

NUMERIC SECTION

2. Keys: it is used to enter data such as unit weight or quantity

3. 0 Key: it is used to enter the number zero.

4. C Key: it is used to clear data.

5. • Key : it is used to enter a decimal po int to the unit weight.

METROLOGICAL FUNCTIONS

6. ZERO Key : it is used to make zero any weight on the scale.

7.. TARE Key : it is used to tare the weight of recipients on the scale.

8. KEYBOARD TARE Key : it is used to enter tare.

9. kg/lb Key : it is used to switch between kg. - lb.

10. PRINT Key : It is used to print the weight,the unit weight and the amount of pieces.

11.. STO Key : it is used to store unit weights .

UNIT WEIGHT FUNCTIONS

12. 

Key : it is used to recall a previously stored unit weight.

13. 

Key : it activates the sample mode and gets the unit weight.

14. 

Key : it is used to enter the unit weight using the numeric section.

15. 

Key : it is used to enter a manualy tare weight.

16. 

Key: it activates the counting mode

17.. 

Key: it used to recall a saved tare wieght from a memory.

MEMORY MANAGEMENT

18. 

Key: it is used to add pieces to the total count.

19. 

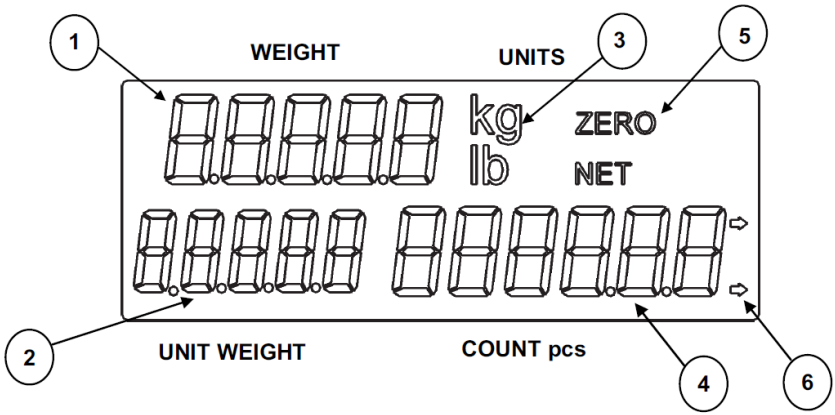
Key: it is used to see the total count.

20. 

Key: it is used to erase the total count.

21.. 
Key: It is used to turn the backlight on /off.

DISPLAY SECTION



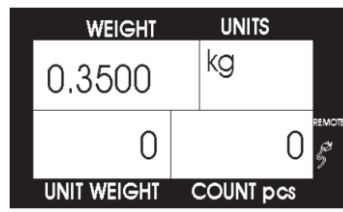
1. **Weight section:** it shows the weight of the product.	4. **COUNT pcs. Section:** : it shows the quantity of pieces inside of the container.
2. **Unit weight section:** it shows the unit weight.	5. **Zero indicator:** it indicates zero weight.
3. **Units section:** it shows the unit of measure: kg, lb	6. **Ac indicator:** it indicates when the scale is connected to a power supplier.

COUNTING FUNCTIONS

TARE/ZERO KEY FUNCTION

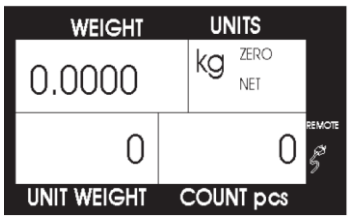
1.- Reference to zero: it is possible that without having any weight over the plate, the scale shows a number on the display due to voltage variance or some other factor. When this happened, just press the key and the weight indicator will return to zeros. The zero word appears in the upper right indicator, this operation is the reset to zero.
Tare: this function is used when you wish to weight a product in a container but you do not want to consider the containers weight during the operation. To use this function follow steps: suppose you are going to weight 150 gr. of some product in a plastic container that weighs 350 gr.

1. place the empty container on the scale.

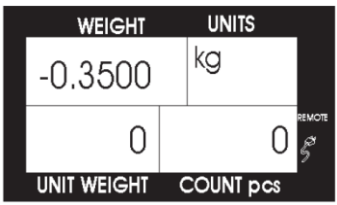


2. Press the key. 

after some seconds the display will shows the following:



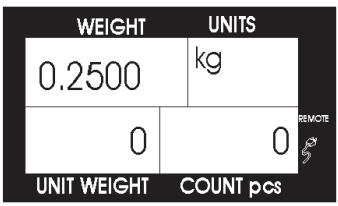
3..Put the product inside of the container and the scale shows only the products weight without the containers weight, when removing the container will appear the **negative weight.**



If you finish weighting and you want to get out of this function, only press the key, 

the scale will return to zero.

It is important to mention that this function is substractive from the scale's maximum capacity. for example, if you have a container that weights 350 gr., the scale will only be able to weight up to 19.650 kg. of product to complete the maximum capacity. (20 kg).



1.Press the , 

key.
2.Use the numeric keys to enter the weight per unit of the piece (unit weight).

3. Press the 

key.

The quantity of pieces is automatically calculated and it is displayed on the count pcs section. If you do not know the exact unit weight you may use the sample function and start counting after pressing enter. you can count up to a maximum of 999,999 pieces. when it is exceding this quantity the total of pieces displayed will be 0. When removing the excess of pieces the total will display again the correct quantity of pieces.

SAMPLE MODE

You can use this mode to calculate the unit weight of one piece of the lot you want to count.

1. Press the key. 

the maximum unit weight to calculate is 9999.9 gr. ; 9999.9 lb.
2. WHEN OPERATING THE SCALE IN kg. THE UNIT WEIGHT WILL BE CALCULATED IN gr. The number of pieces of the sample depends on the unit weight. to calculate the unit weight of a piece,
Place 10 pieces on the plate and divide by 10 the displayed total weight. Then, check from the Tables of errors the minimum necessary quantity of pieces for the sample to get a closer unit weight.
3. Place on the plate the necessary quantity of pieces and use the numeric keys to enter.
The number of pieces of the sample. The unit weight is automatically calculated and displayed on the unit weight display. You will be able to start counting with this cell by

Pressing the 

key. To count using a remote cell you should press local/remote after pressing the enter key. You can store the unit weight value in a memory to use it later.
For example: let's suppose that we shall weight screws and the unit weight is Approximately 3.6gr. From the table of errors we know to get the minimum error we should

Take at least 100 pieces for the sample. we press the 

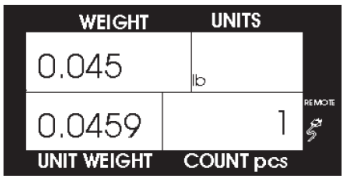
key, we place the 100 screws and we enter 100 using the numeric keys. The unit weight is calculated and displayed now

Press the key 

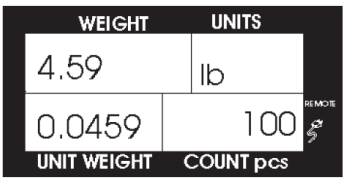
and place the lot of screws to be counted, the quantity of screws is displayed on the count pcs display. If high precision counting is not required you may use a sample of 25 to 50 pieces for this example but, the percentage of error will increase according to the table of maximum errors.

INTERMITTENT INDICATOR

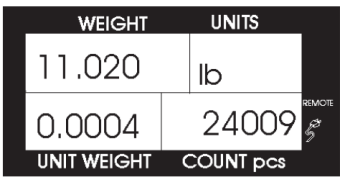
It is activated when the total of pieces is calculated on the basis of the unit weight value with more decimals that is shown in the unit weight section.
This value is not completely in the display, so you can not record it; when it is required a better resolution is recommendable to make the sampling, calculating the unit weight and counting the pieces for example:



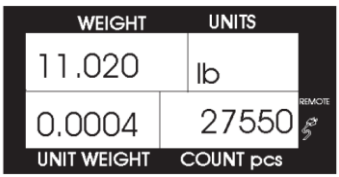
The 100 pieces are placed and sampled as a sing le piece to know the decimal unit weight.



When is indicating that they are 100 pieces the unit weight of the piece is of 0.0005 in the display but internally the unit weight is of 0,000459 when pressing enter after introducing 100 pieces via keyboard



The intermittent indicator of unit weight is displaying during all the operation of the count of pieces and will make the count of total of pieces with the internal unit weight of 0.000459.



If at this moment it keeps the value from unit weight, the value is 0,0005 and the operation of The total of pieces was made with this unit weight.
You notice the unit weight were nor calculated, the intermittent indicator is not present and the total of pieces is calculated according to the unit weight of the display

TABLE OF MAXIMUM ERRORS

5 kg

Weight/piece Pounds	Weight/piece Grams	Samples						
		500	400	300	200	100	50	25
0.00005 to 0.00010	0.025 to 0.049	0.80%	1.01%	1.34%	2.02%	X	X	X
0.00011 to 0.00019	0.05 to 0.09	0.40%	0.50%	0.67%	1.01%	2.02%	X	X
0.00022 to 0.00043	0.1 to 0.19	0.20%	0.25%	0.33%	0.26%	1.01%	2.02%	X
0.00044 to 0.00109	0.2 to 0.49	0.10%	0.13%	0.17%	0.25%	0.50%	1.01%	2.02%
0.00110 to 0.00219	0.5 to 0.99	0.04%	0.05%	0.07%	0.10%	0.20%	0.40%	0.80%
0.00220 to 0.00440	1 to 1.99	0.02%	0.03%	0.03%	0.05%	0.10%	0.20%	0.40%
0.00441 to 0.01101	2 to 4.99	0.01%	0.01%	0.02%	0.03%	0.05%	0.10%	0.20%
0.01102 to 0.02205	5 to 9.99	0.00%	0.01%	0.01%	0.01%	0.02%	0.04%	0.08%
0.02206 and above	10 and above	0.00%	0.00%	0.00%	0.01%	0.01%	0.02%	0.04%

20 kg

Weight/piece Pounds	Weight/piece Grams	Samples						
		200	100	50	25	10	5	2
0.00022 to 0.00043	0.1 to 0.199	1.25%	2.51%	5.05%	X	X	X	X
0.00044 to 0.00109	0.2 to 0.49	0.63%	1.25%	2.51%	5.05%	X	X	X
0.00110 to 0.00219	0.5 to 0.99	0.25%	0.50%	1.00%	2.01%	5.05%	X	X
0.00220 to 0.00440	1 to 1.99	0.13%	0.25%	0.50%	1.00%	2.51%	5.05%	X
0.00441 to 0.01101	2 to 4.99	0.06%	0.13%	0.25%	0.50%	1.25%	2.51%	X
0.01102 to 0.02205	5 to 9.99	0.03%	0.05%	0.10%	0.20%	0.50%	1.00%	2.51%
0.02206 to 0.04403	10 to 19.9	0.01%	0.03%	0.05%	0.10%	0.25%	0.50%	1.25%
0.04415 and above	20 and above	0.01%	0.01%	0.03%	0.05%	0.13%	0.25%	0.63%

50kg

Weight/piece Pounds	Weight/piece Grams	Samples						
		300	200	100	50	25	10	5
0.00055 to 0.00109	0.25 to 0.49	0.73%	1.10%	2.20%	4.42%	X	X	X
0.00110 to 0.00219	0.5 to 0.99	0.37%	0.55%	1.10%	2.20%	4.42%	X	X
0.00220 to 0.00440	1 to 1.99	0.18%	0.28%	0.55%	1.10%	2.20%	X	X
0.00441 to 0.01101	2 to 4.99	0.09%	0.14%	0.28%	0.55%	1.10%	2.76%	X
0.01102 to 0.02205	5 to 9.99	0.04%	0.06%	0.11%	0.22%	0.44%	1.10%	2.20%
0.02206 to 0.04403	10 to 19.9	0.02%	0.03%	0.06%	0.11%	0.22%	0.55%	1.10%
0.04415 and above	20 and above.	0.01%	0.01%	0.03%	0.06%	0.11%	0.28%	0.55%

UNIT WEIGHT MEMORIES

The scale has 50 memories to store the unit weight values of pieces.

HOW TO STORE UNIT WEIGHT MEMORIES

It is posible to be in two ways, count or sample mode. Firstly in the sampling mode obtain the unit weight following the procedure for it, once the unit weight has been calculated correctly, press the key STO and enter the number of the memory slot that you wish to save To (from 01 to 50). In the same way, entering the unit weight with the keyboard you can store memories in the counting mode. In other words: introduce the unit weight, press the and the memory number keys where it is desired to the unit weight (from 01 to 50). For example: if you want to keep the unit weight in the memory number 01, do the following. When the memory number is captured press the 0 and 1 keys, in this way the unit weight will be keept automatically. If you press the 1 key the scale did not keep the unit
Weight because this is designed to receive the combination of two numbers.

The scale has 50 memories to store the unit weight values of pieces.

HOW TO RECALL UNIT WEIGHT MEMORIES

In order to recall the unit weight for some pieces that you want to count, press the SAMPLE RCL Key, and the number (from 01 to 50) corresponding to the memory. For example: if it is required to recall the memory number 01, only press the combination 0 of and 1 keys, then the unit weight will be displayed.

TARE WEIGHTS MEMORIES

The scale has 50 memories to store the tare weight values for containers.

HOW TO STORE TARE WEIGHT MEMORIES

It is posible to save a tare in two ways, tare mode or manual. In tare mode first obtain the rare weight, after you have the desired tare weight, press STO key, with numeric keypad type the number of memory where you want to save the tare weight (from 01 to 50, are the same memories for the local and remote cells). Similar for tare manual, press TARE key to enter the tare weight with the numeric key pad, then press key and the number of the memory where you want to save the tare weight (from 01 to 50).
Example if you want to save a tare weight into the one memory, follow this steps, when you type the number of memory press 0 and 1 keys, so the tare weight will be keept automaticaly. If you only press the key 1 the scale

HOW TO RECALL TARE WEIGHT MEMORIES

To recall a tare weight, press TARE RCL key, and the number of the memory (Ø1 to 5Ø).Example if you want to recall the one memory press TARE RCL and then press 0 and 1 keys, the scale recall the tare weight from the memory. Now you can make your countings.

HOW TO ACCUMULATE PIECES

This function is used to add pieces, however the maximum amount of pieces to accumulate is 999,999. In the order to accumulate pieces while in the counting mode, press the SUM + key, the display will show the number of accumulated lot (itm) in the section weight and the total amount of pieces accumulated in section count pcs., after a while the display will returnwhere it was.

HOW TO SEE THE TOTAL COUNT

In order to see the total of pieces and the number of lot (itm) while your scale is operating press the SUM RCL key at any time, the total was in the display during a little while and returned to the display where it was.
when exceeding the storage cell sum (999.999 pcs.), the storage cell will keep complete the last accumulated pieces and will send a double beeper indicating that it can not accumulate more.

HOW TO ERASE THE TOTAL COUNT

When already there is accumulated a total of pieces and you wish to erase the storage cell, just press the key SUM +, the display will display zeros in the total amount of pieces accumulated during a little while and will return to the display in which was previously.

OPERATION IN lb AND kg

If you wish to operate the scale in pounds press the key, kg/lb in this way your scale will Weight in the basis of pounds If you wish to weigh in kg press kg/lb again.

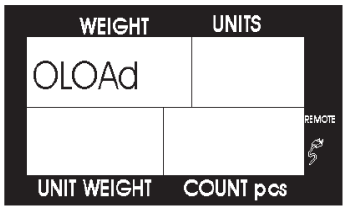
PRINTING

To print the weight, unit weight and count, press the key, PRINT the data will be printed in the unit of the system of weigh that is being used kg. or lb. at the speed of programmed transmission (serial interfase rs-232).
printing examples:

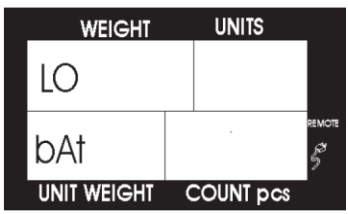
Weight :	0.265 kg	Weight:	0.059 lb
U. Weight:	0.2150 gr/pc	U. Weight:	0.02 lb/ pc
Count :	1233 pcs	Count :	3 pcs

IMPORTANT MESSAGES THAT APPEAR ON THE DISPLAY

This message indicates the scale has been overloaded, to correct simply remove the extra weight from the scale platter.

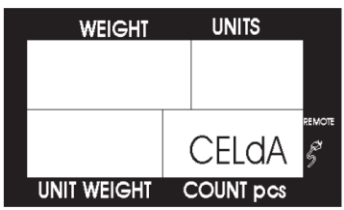


If this message appears in a intermittent way, it means that is detecting low level of voltage in the battery and the backlight will turn automatically off. The feeder must be connected and the scale must be recharged at the same time that is used. If you does not recharged the scale during the operation until reached the allowed low level , it will turn automatically off.



CALIBRATION

1.- Connect the cell harness (to review info. Connector of cell) to the indicator (qc50).
2.- Check the weight sensor is in a free place of movement and airflows.
3.- Check the platform is leveled.
4.- In the scale' base is located the pus- h button switch which must be in on to enter to calibrate; turn the scale on, after the countdown then you can see in the display the following screen.



CALIBRATION

Parameter	Description
Br	Serial port transmission speed
Cap	Platform capacity
%	Percentage of capacity for calibration
Dmi	Minimum external division
Zero	Calibration

Selects a parameter.

Saves the parameter value.

Advances to the next parameter.

Ends calibration

PARAMETERS SELECTION

PARAMETER	CHOICE		VALUE
CELL	(CELL)	1	Ø
Br	(BAUD RATE)	2400	Ø
		4800	1
		9600	2
CAP	(CAPACITY)	5 kg.	Ø
		10 kg.	1
		20 kg.	2
		50 kg.	3
		200 kg.	4
		400 kg.	5
		1000 kg.	7

% (Calibration percentage) select table from 10% to 100%.
DMI external minimum division (see the table below).
It is important to define correctly in the cell parameter of scales. In all cases, the cell parameter is 1 (no modifiable). the calibration will be made in kg. For example: calibrate the scale with a serial velocity of transmission of 9600 bps, with 10% of weight, and minimum division of 0.002 gr.
A. With the scale off, remove the security cover, press the push-button , then turn on the scale, and during the countdown hold the push button pressured, in the

Display will appear the parameter 1, press the key 

and then will appear the cell message on the display.

B. Press the 

key , then press the key 

to save it and then press the 

Key to continue with the next parameter.

C. With the message br press 

key (9600), press the 

key to save it and the 

Key to continue with the next parameter.

D. With the message cap 

press (20kg.), Press the 

key and 

E. With the message % press the 

and 

keys and press 

and 

F. like the capacity of the scale is of 20 kg. in order to get the internal division of 0.002 gr., the operation is the following: 20000 gr=20 kg. / 0.002 gr (20 kg./0.002 kg. = 10000) getting it 10000 divisions, that means, capacity=20 kg. and divisions=10000. check in the selection table of minumum external division the value in the table with the desired capacity, in this case is of 20 kg. and the number of divisions are 10000, therefore the value in the table is of 2.g. when appearing the zero message, check that the weight sensor does not have anything on the plate; in this case when is pressing enter, it will take the initial reference, after that press sample; immediately it will have to put the weigh 2 kg.,with which one is going to calibrate and to press enter.
5.- to get out of the configuration mode, turn off the scale and turn it on again, so the scale works correctly and turn on the scale.
6.- verify the weighing.

SELECTION TABLE OF MINIMUM EXTERNAL DIVISION

Indicate the value to introduce in the calibration in the DMI parameter, each capacity has 9 different divisions from 10,000 to 25 div., if you wish the capacity of 20 kg. with 10000 div.
dmi =2; with 5000 div. dmi = 5 or 50 kg with 10000 div. dmi = 5;

CAPACITY	MINIMAL EXTERNAL DIVISION								
kg	10,000	5,000	2,500	1,000	500	250	100	50	25
5.0000	5(0.0005)	10(0.001)	20(0.002)	50(0.005)	100(0.01)	200(0.02)	500(0.05)	1000(0.1)	2000(0.2)
20.000	2(0.002)	5(0.005)	10(0.01)	20(0.02)	50(0.5)	100(0.1)	200(0.2)	500(0.5)	1000(1)
50.000	5(0.05)	10(0.01)	20(0.02)	50(0.05)	100(0.1)	200(0.2)	500(0.5)	1000(1)	2000(2)

CAPACITY	MINIMAL EXTERNAL DIVISION								
lb	10,000	5,000	2,500	1,000	500	250	100	50	25
11.000	0.001	0.002	0.005	0.01	0.02	0.05	0.1	0.2	0.5
44.000	0.005	0.01	0.02	0.05	0.1	0.2	0.5	1	2
110.00	0.01	0.02	0.05	0.1	0.2	0.5	1	2	5

MAINTENANCE AND CLEANING

A. One of the greatest advantages of purchasing this scale model is requires Minimum maintenance and it is very simple to mantain in favorable conditions.
B. Do not use a flow of water to clean your scale. Use a damp rag and clean each of Its components daily: plate, cover, keyboard.
C. To remove oil and greasy substances, use a dry and clean rag, rubbing the dirty Area several times.
D. Regularly check the scale to assure it is correctly leveled with its four bases well supported.
E. When you clean the scale make sure are not any papers, or any other kind of material under the plate or under the plate-holder that could obstruct the Proper operation of your scale.

F. Do not use detergents nor corrosive liquids while cleaning.
G. Do not move your scale around. Constant movement can cause strokes that damage it.
H. DO NOT EXPOSE YOUR SCALE TO TEMPERATURES BELOW -10 °c (14 °f) OR ABOVE 40 °c (104 °f).

RECOMMENDATIONS

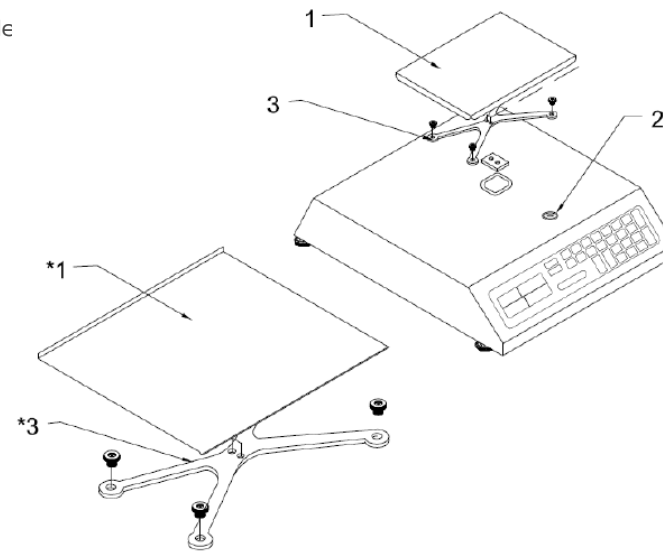
Advantages and taking care of
1.- The scale offers the advantage at the same time to show the weight on the plate, the unit weight of the piece and the total of pieces calculated in the same display.
2.-Before initiating any weighing or sampling , it will have to verify the optimal conditions of the sampling.
A) the scale has to be leveled.
B) the scale has to be isolated of currents.
C) the scale has to be isolated of airflows.
D) the scale has to be isolated of vibrations.
E) the scale has to be isolated of humidity and dust.
F) the motion indicator of display will have to be turned off.
G)the zero indicator in display will have to be turned on.
H) the section of display of weight showing zero weight.
3.-In order to fit the zero weight, press the zero key, this adjustment is made just when there is a vibration absence.
4.-In order to avoid wrong references when making the sampling is recomme nded to tare the container before making the sampling, if the container is the same one for all the samplings with taring once the optimal conditions of the sampling is enough.
5.-In order to obtain the greater possible resolution it is recommended to sample the minimum pieces required according to the table of error and with the unit weight
Calculated and verified to make the count of pieces.
6.- The error of count of pieces is based on:
A) the margin of error in the weighing according to the shown in d isplay
It is recommended to verify the optimal conditions of the sampling (2) to reduce the error in the weighing.
B) the calculated margin of error of the unit weight according to sample
Verify the absence of the indicator of motion in the calculation of the unit weight when pressing the enter key.
C) the margin of error of the weight between the same pieces.
Verify the difference of maximum weight between 0.01% pieces.
7. - The verification of the scale will have periodically to be made with a weigh pattern and after some inadequate handling:
A) drop or hit the scale,
B) hit the weight sensor,
C) overload,
D) abrupt changes of temperature,
E) excessive humidity.

8. - Any doubt in reference to the scale, please consult your authorized distributor.
9. – Rechargeable battery with work time up to 90 hours only with two load cells.

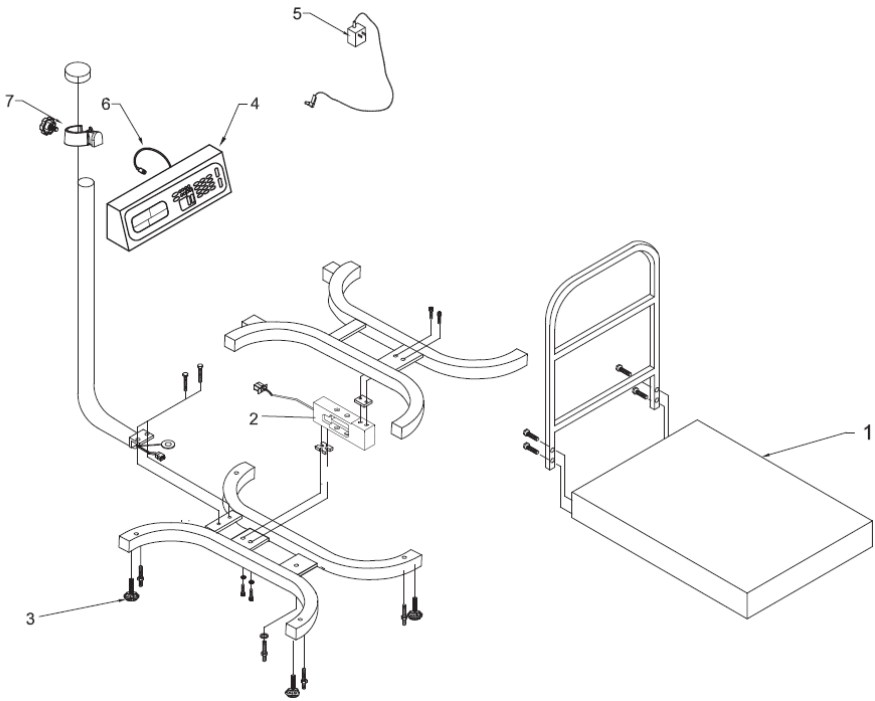
TECHNICAL SPECIFICATIONS

Model QC-5	Model QC-20
Max. Cap. 5kg/10lb Min. Div. 0.5gr/0.001lb Minimum unit weight 0.05gr/0.0001lb Oper. Temp. -1°F to 104°F	Max. Cap. 20kg/40lb Min. Div. 0.02gr/0.0015b Minimum unit weight 0.0002kg/0.0005lb Oper. Temp. -1°F to 104°F

1. Plate
2. Circular plastic le
3. Plate holder.



Model QC-50
Max. Cap. 50kg/100lb Min. Div. 0.005kg/0.01lb Minimum unit weight0.0005kg/0.001lb Oper. Temp. -1°F to 104°F



1. Plate.
2. Weight sensor..
3. Leveling Bases
4. Turret Display.
5. AC/DC Power supply
6. Turrets conector
7. Plastic C Holder
8. AC/DC Power supply

ADDITIONAL DATA

The serial number of this product can be found in the register plate under the scale. We suggest you that write the serial number and the scale model in the following spaces and hold them as proof of your acquisition and as identification in case of loss or to future request.

Distributor_____

Address _____

Telephone number _____

Purchase date _____

Purchase date _____

Serial number _____

We reserve the right to change any specification contained in this text without prior notice.

ELECTRONIC SCALE

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