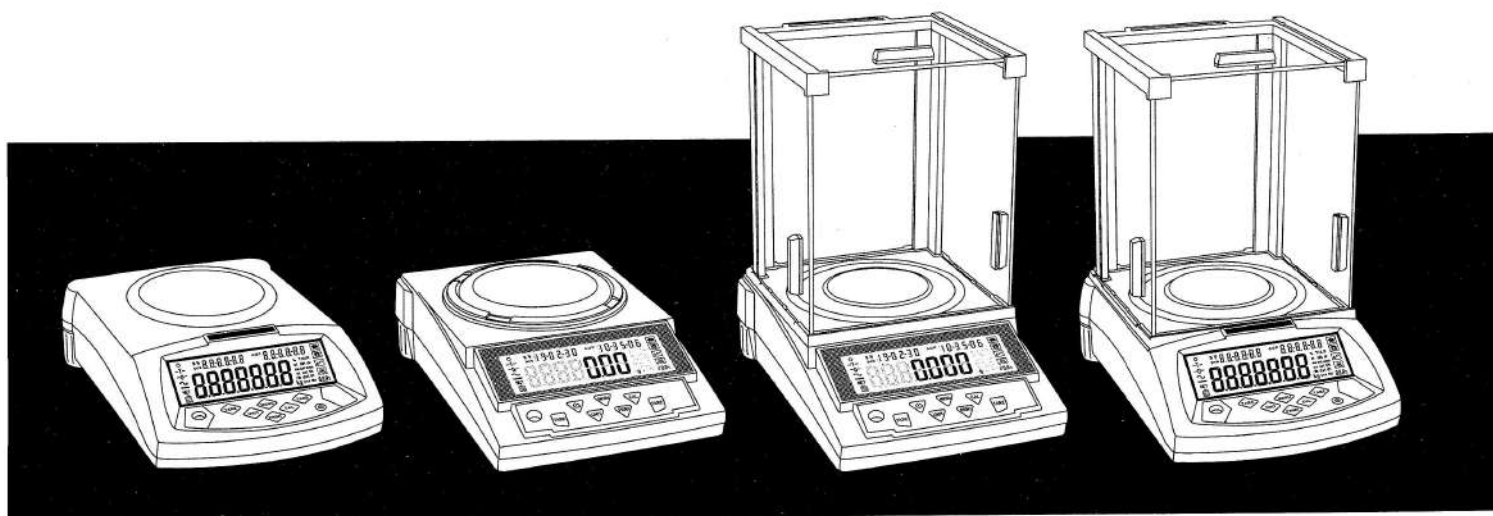
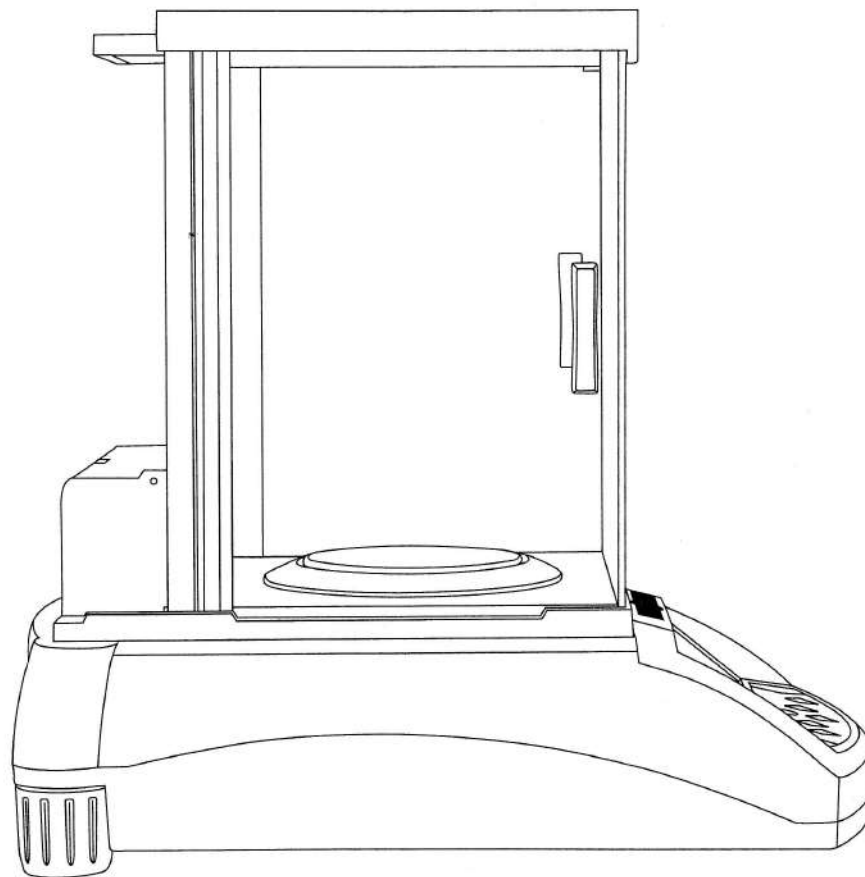


Operating **Manual**



Electronic Analytical Balance / Precision Balance

We ware try the best to ensure the veracity of operating manual, but we didn't take responsibility for printing or description mistake.

We has right to update the machine looking and performance without noticing the consumer.

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Warming And Safety Using

SAFETY

- For avoiding damage, please read all operating instructions carefully before use.
- ⚠ Don't use your machine under dangerous working circumstance
- ⚠ Cut off the power if machine will turn off for more than one week
- ⚠ Turn off the machine and cut off the power before or after connection with other equipments
- ⚠ Strong magnetic field and static electricity can have an adverse effect on weighing sensor. When disturbance disappear, the machine will work well again

PARTS

- All our parts is the most suitable parts for machine.
All modification or using unauthorized parts for machine need to be confirm before using.
All modification needs to be take responsibility.
- Do not open the machine housing. Machine will not have guarantee service if security label broken.

1. Unpacking

- After unpacking the machine, please check machine has any visible damage.
 - Please keep the original box and packing material for storing machine when not in use or send back for repairing.
- Before packing the balance, please cut off all power and cable.

2. Packing List

Machine Item	Main Machine	Weight Mass	Adapter	Cable	Pan	Operating Manual
	1pc	1pc	1pc		1Set (2pcs)	1pc
	1pc	1pc	1pc		1Set (2pcs)	1pc
	1pc	1pc	1pc	1pc	1Set (2pcs)	1pc
	1pc	1pc	1pc	1pc	1pcs	1pc
	1pc		1pc	1pc	1pcs	1pc

3. Installation

When select the location for install machine, please keep these tips in mind:

- Do not put machine close to central heating or sunshine and airflow way.
(Opening door or window)
- Do not exposure machine to extreme heat or cold. Keep scale in a clean, dry location. Dust, dirt and moisture can accumulate on the weighing sensor.
- Install machine on a flat and level surface, free from vibration and drafts, free from corrosive and strong magnetic field, as they can have an adverse effect on the weighing sensors.

4. Warm up for machine adapt temperature

When move machine from high temperature place to low temperature place (or inversely), please keep machine in final place for two hours and then turn on to warm up (warm up time refer to the specification list), as the machine will proportion the room temperature.

Summarize

5. Key Explanation

● **UNIT KEY (Move Key)**

- A: Select Unit.
- B: Status 1: Move the flash on digit to left.
- C: Status 2: When all digit flash, press unit key and let single digit flash, enter into status 1. Press unit key again enter into status 2. It is circle.
- D: Status 3: When set parameter, press unit key can minus one. (At this moment)

● **MENU KEY**

- A: Press and hold MENU KEY for 5 seconds will enter into system setting menu.
- B: Press and hold MENU KEY for 1 second will save and quit system setting menu.
- C: Short press MENU KEY to alternately display system menu, but if only one parameter in this level, short press MENU KEY will return to previous menu.

● **CAL KEY (Enter Key)**

- A: When normal weighing, short press CAL KEY will zeroing.
- B: Press and hold CAL KEY for 5 seconds will enter into calibration.
- C: Enter into submenu.
- D: At the bottom menu, press CAL KEY will confirm the present status and return to:
(1). The previous menu
(2). Enter into a weighing function (such as density, dynamic)
- E: Under COD STATUS (Engineer Parameter Setting Status) Input different code will enter into correspond parameter menu.

● **PRINT KEY (Cycle Key)**

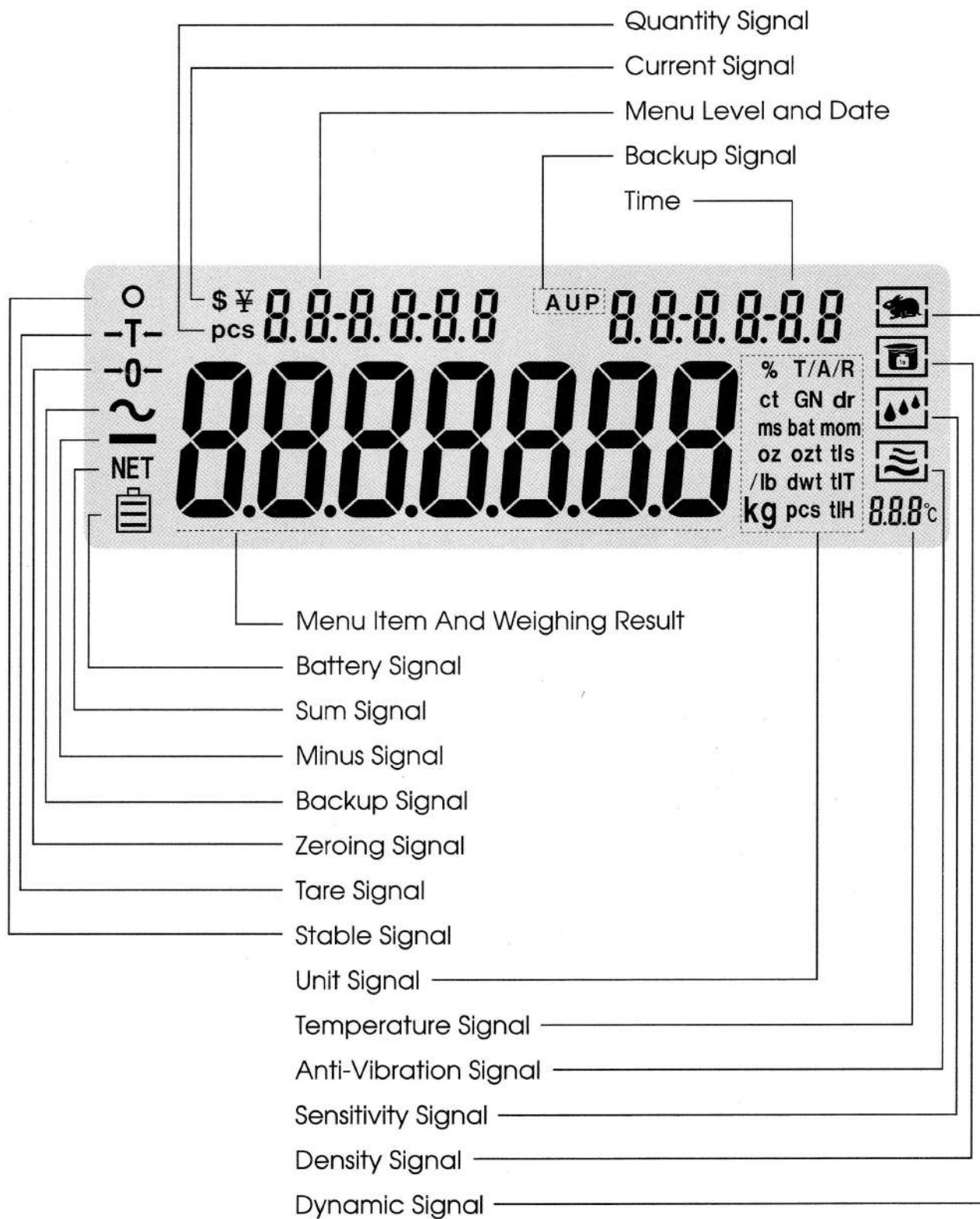
- A: When manual printing or communication available, press PRINT KEY will send weighing data to printer or other equipment.
- B: When one digit flash , press PRINT KEY will plus one
- C: Cycle to next parameter when display flash

● **TARE KEY (Return Key)**

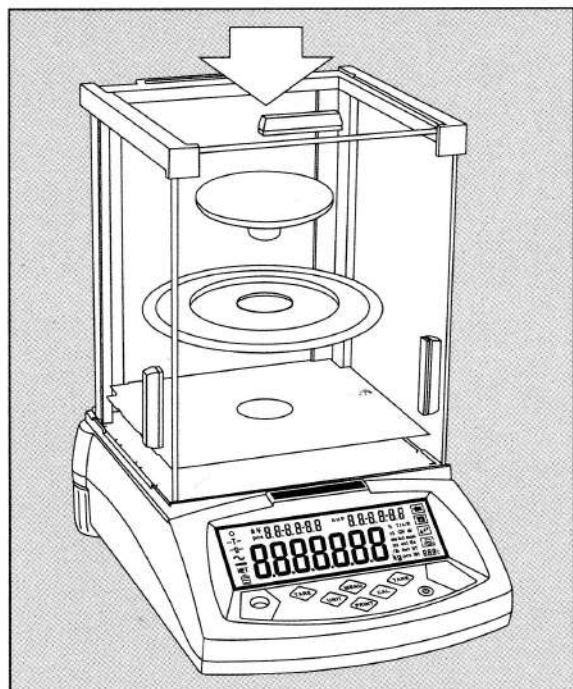
- A: Tare
- B: Return to the previous menu without save
- C: Press and hold PRINT KEY for 1 second will quit from a weighing function.
(Such as density, dynamic)

Note: The buzzer sound different when long press or short press the key.

6. Display Explanation (Example: 2000g/0.01)



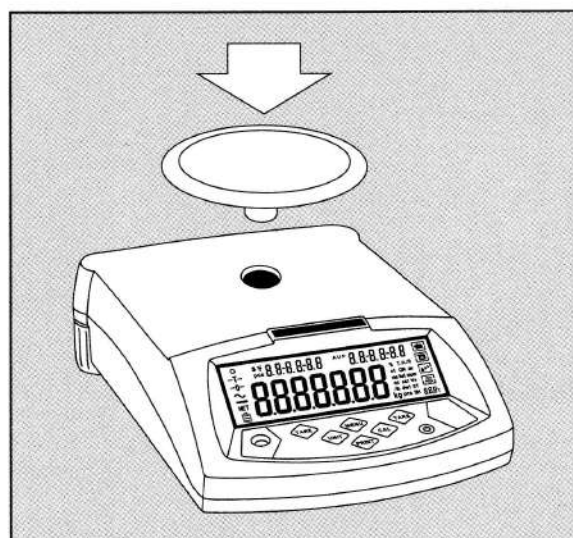
Second Part: Installation



Assemble Machine

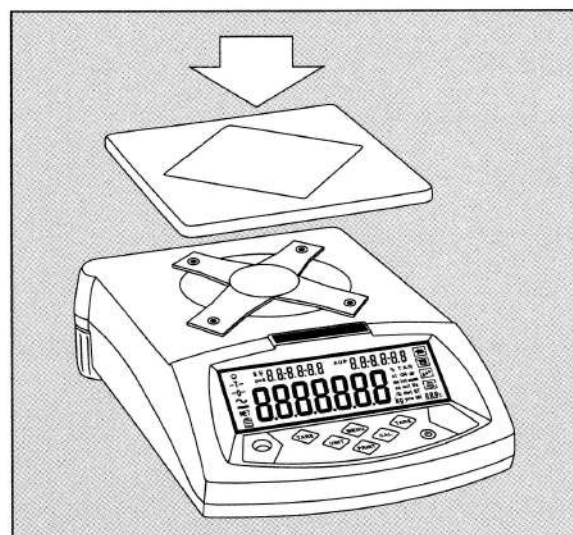
The machine with windshield

- Assemble each parts as following :
 - Air-free loop
 - Put weighing pan on the pillar which is in the middle of machine.



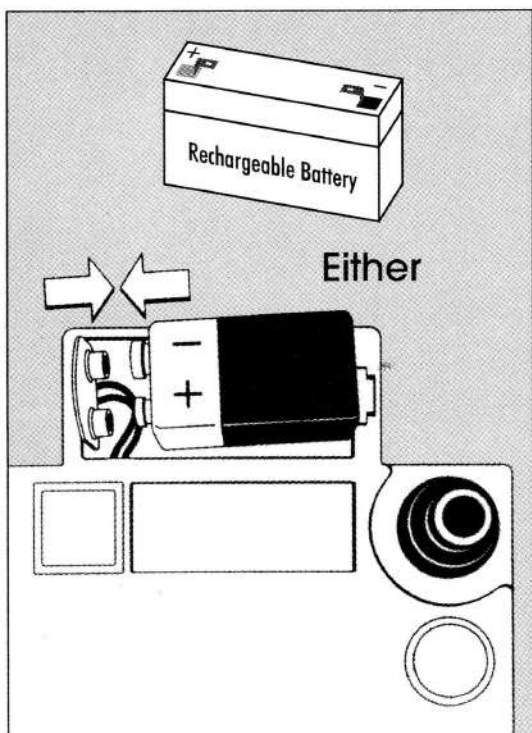
The machine with round weighing pan

- Put weighing pan on the pillar which is in the middle of machine.



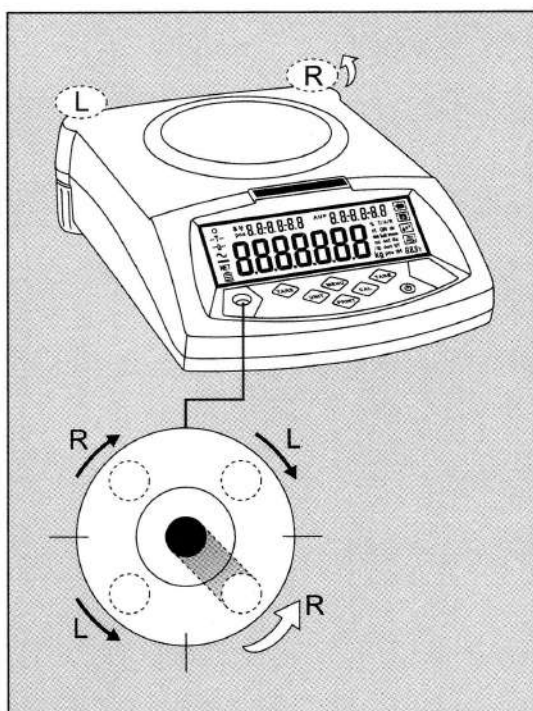
The machine with square weighing pan

- Put the weighing pan on bracket.



Use dry battery / Rechargeable battery

- The dry battery or rechargeable battery is not on machine's packing list.
- ⚠ Only normal or universal 9V dry battery or rechargeable battery will be available for machine
- ⚠ Only available for using adapter to recharge the rechargeable battery for machine.
- Lie down the machine at side
- Open the battery box cover
- Connect and put 9V dry battery or rechargeable battery in box
- Confirm the positive and negative correctly.
- Close the battery box: Screw the battery box cover adown to the machine.
- ⚠ The used battery is recycled. According to the waste disposal law, rechargeable battery to be used as a special garbage recycling and specialized handling.



Adjust Machine Level

The machine need to adjust the level ever time when change the install location. Moving the two back screw nuts slowing to adjust level.

- Counterclockwise rotate the two back screws to right position.
 - Rotate the screws as the photo until the bubble is in the middle of level device.
 - Clockwise rotate the two back screws until it touch the supporter.
- > Under normal circumstances, adjust level need several times to reach suitable position.

Third Part: Basic Operating

Basic Weighing Function

Preparation


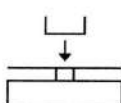
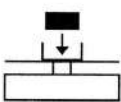
- Turn on machine: Press (ON/OFF) Key

Warm up time:

- For making sure the weighing result correct, different type machine need different warm up time to reach the required operating temperature. Please refer the specification list to know the correct warm up time.

INSTANCE

Basic Weighing (The machine was warm up)

Key (Order)	Step Explanation	LCD Screen Display
	1. Zero Stable	
	2. Put container on weighing pan (example : 100g)	100.00 g
[TARE]	3. Press Tare key for tare the container weight	0.00 g
	4. Put sample in container (example: 200g)	200.00 g

Calibration / Adjustment

Request

The machine only can be Calibration / Adjustment in the following cases:

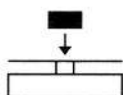
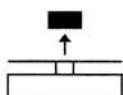
- Nothing on weighing pan, was tare, weighing signal stable

Machine will have ERRO SIGNAL if does not have above premise.

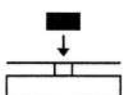
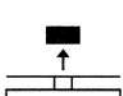
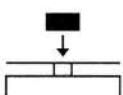
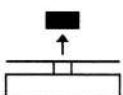
If all premise available, the machine will display required weight mass value for calibration.

INSTANCE (Example: 2000g/0.01)

Span Calibration :

Key (Order)	Step Explanation	LCD Screen Display
[TARE]	1. Machine tare	0.00 g
Press and Hold [CAL] Key	2. Display span calibration signal Flash the required weight mass value: 1000g	1000.00 g
	3. Put required weight mass on pan. After 5 seconds, display the weight of it.	1000.00 g
	4. Take the weight mass away (Span calibration finished)	0.00 g

Linearity Calibration Instance :

Key (Order)	Step Explanation	LCD Screen Display
Short Press [TARE] Key	1. Machine tare	0.00 g
Press and Hold [CAL] Key for 5 seconds	2. Display Span CAL signal Flash 1000g signal	1000.00 g
Release [CAL] Key, Press and Hold [MENU] Key for 5 seconds	3. Display Linearity CAL signal Flash 2000g signal	2000.00 g
	4. Put required weight mass on pan Display 2000g after 5 seconds	2000.00 g
	5. Take weight mass away Linearity calibration step Flash 1000g signal	1000.00 g
	6. Put required weight mass on pan Display 1000g after 5 seconds	1000.00 g
	7. Take weight mass away (Linearity calibration finished)	0.00 g

Note: The grey color words is flash signal.

Fourth Part: Operate Application

Application Setting (Menu Code: 1)

Counting (Menu Code: 1.1.)

Purpose

Use this function can calculate the quantity with total weight divide by signal weight.

INSTANCE

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Enter Into Counting Function		1.
Short Press [CAL] Key	2. Display Counting Mode		1.1.
Short Press [CAL] Key	3. Enter into Counting Program Set Sample Quantity 20pcs (Example)		1.1.1
	<ul style="list-style-type: none"> ○ Press [PRINT] key to cycle the sample quantity setting. ○ User can set sample quantity manual: Press [UNIT] key to move the cursor and press, Press [PRINT] key to increase the sample quantity. 		
	4. Put 20 pieces to platform or container (Example).		
Short Press [CAL] Key	5. The display will show 20pcs (Example)		
	6. Take samples away .		
	7. Put any unknown numbers of pieces on pan and will display a count.		
Press [TARE] Key	8. Exit the counting function.		

Note: The grey color words is flash signal.

Density Measurement Function (Menu Code: 1.2.)

Solid Material Density Code 1.2.1.1.01

Liquid Material Density Code 1.2.2.1.01

Purpose

Use this function can calculate the solid or liquid material's density. (Need to fit with our company's hydrostatic sets)

Solid Material Density Measure Way

Step One: Use hydrostatic sets to measure the material's weight in air.

Seep Two: Use hydrostatic sets to measure the material's weight in water.

(User must know the sample's standard density)

Liquid Material's Density Measure Way

User must know about sample's volume.

User need to input the sample's volume into machine. The machine can save the lately sample data and ready for using any time.

Step One: Measure the sample weight in air.

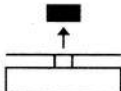
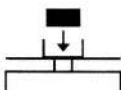
Step Two: Measure the sample weight in water.

Solid Material Density Measurement Instance Page No.12

Liquid Material Density Measurement Instance Page No.13

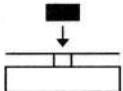
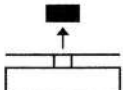
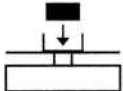
Density Measurement

Density Measurement Instance

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Enter Into Counting Function	--h0dE--	1.
Short Press [CAL] Key	2. Display Counting Mode	--COUNT	1.1.
Short Press [MENU] Key	3. Display Density Mode	dENSIty	1.2.
Short Press [CAL] Key	4. Enter into Solid Density Measurement program	-Solid-	1.2.1.
Short Press [CAL] Key	5. Start the solid density program and select a liquid density	0099988	1.2.1.1
	<ul style="list-style-type: none"> ○ User can set liquid density: Press [UNIT] key to move cursor, press [PRINT] key to cycle and select value. ○ Select the 10 previous set liquid density: Short press [UNIT] 7 times, all digits will flash. Press [PRINT] key can cycle and select 10 liquid density which was set previously. 		
Short Press [CAL] Key	6. Machine will clue user to measure material in air	Air 000 g	
Short Press [CAL] Key	7. Weight material in air. (Example : The weight result is 118.45g in air)	Air 118.45 g	
Short Press [CAL] Key	8. Machine will record the air weighing data and clue user on that measure material weight in water.	Liquid 118.45 g	
	9. Take the material away, Machine will clue user to measure material in water	Liquid 000 g	
	10. Put material in water and weigh it (Example: the weight result is 20.70g in water)	Liquid 20.70 g	
Short Press [CAL] Key	11. Machine will record the water weighing data, Machine will calculate the material's solid density at the same time.	d---g-c 121158	
	○ (If need to measure different material's density, please repeat step 6-11)		
Press and Hold [TARE] Key	12. Exit the Solid Density Measurement	12:08:22 10:28:50 000 g	

Note: The grey color words is flash signal.

Liquid Density Measurement

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Enter Into Counting Function	--mode--	1.
Short Press [CAL] Key	2. Display Counting Mode	--COUNT--	1.1.
Short Press [MENU] Key	3. Display Density Mode	DENSITY	1.2.
Short Press [CAL] Key	4. Display Solid Density Measurement Mode	-Solid-	1.2.1.
Short Press [MENU] Key	5. Enter into Water Density Measurement program	-LIQUID	1.2.2
Short Press [CAL] Key	6. Input Material Volume ○ Input way: Press [UNIT] key to move cursor, Press [UNIT] key to cycle the number and select, press [CAL] key to confirm it.	1000000	1.2.2.1
Short Press [CAL] Key	7. Machine will clue user to measure material in air	AIR 000 g	
	8. Measure Liquid container in air. (Example: 118.45g)	AIR 118.45 g	
Short Press [CAL] Key	9. Machine will record the air weighing data and clue user on that measure container weight in water.	LIQUID 118.45 g	
	10. Take the material away, Machine will clue user to measure material in water	LIQUID 000 g	
	11. Measure Liquid container in water (Example : 20.70g)	LIQUID 20.70 g	
Short Press [CAL] Key	12. Machine will record the water weighing data, Machine will calculate the liquid's density at the same time. ○ (If need to measure different material's density, please repeat step 7-12)	d---g/cc 9.77300	
Press and Hold [TARE] Key	13. Exit the Liquid Density Measurement	000 g	

Note: The grey color words is flash signal.

Dynamic Measurement

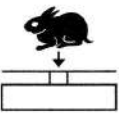
Dynamic Measurement Function (Menu Code: 1.3.1.)

Purpose

Operator can use this program to measure dynamic weight. The dynamic weighing way is summarize the weighing result from setting time and average it.

Instance

Set 10 seconds for the dynamic weight material or variable weight material.

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Enter Into Counting Function	--mode--	1.
Short Press [CAL] Key	2. Display Counting Mode	--COUNT	1.1.
Short Press [MENU] Key Two times	3. Enter into Dynamic Weighing Program	dynRnI [1.3.
Short Press [CAL] Key	4. Select Weighing Time	Id--- 10	1.3.1
	<ul style="list-style-type: none"> ○ Press [PRINT] key can cycle and select different weighing time (Second). ○ Operator can set the weighing time by: Press [UNIT] key to move cursor, press [PRINT] key to select the target Number. 		
Short Press [CAL] Key	5. Confirm the weighing time	000 g	
	6. When display flash: SCART, Put weighing material on pan	578.7	
Short Press [CAL] Key	7. Begin to weigh for 10 seconds	98423 g	
	8. Average the weighing result automatically after 10 seconds	98423 g	
Short Press [TARE] Key	9. Clear the weighing data	000 g	
	○ (If need to measure different material, please repeat step 7-9)		
Press [TARE] Key	10. Exit the dynamic measurement	<div> <div>12.0822</div> <div>10.2850</div> <div>000 g</div> </div>	

Note: The grey color words is flash signal.

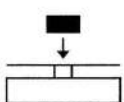
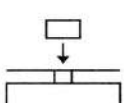

Percentage Measurement

Percentage Measurement Function (Menu Code: 1.4.1)

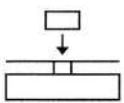

Operator place the reference sample that corresponds to 100% onto weighing pan, the other samples will display the weighing result as %.

Operator can input the sample value or weighing the sample value and input it.

Example one (Percentage Weighing)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Enter into Weighing Function	- - mode -	1.
Short Press [CAL] Key	2. Display Counting Mode	- - COUNT	1.1.
Short Press [MENU] Key Three times	3. Enter into percentage weighing program	PERCENT	1.4.
Short Press [CAL] Key	4. Select percentage weighing mode (One)	SAMPLE	1.4.1
Short Press [CAL] Key	5. Begin the percentage weighing	SAMPLE	1.4.1.1
	6. Put sample	SAMPLE	1.4.1.1
Short Press [CAL] Key	7. Display 100% signal	10000 %	
	8. Take sample away and put any other sample on pan (Example: will display 79%)	7900 %	
	○ Remove the reference sample and add the unknown sample to determine its relative weight.		
Press [TARE] Key	9. Exit the percentage measurement		

Instance Two (Set value of 100%)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Do the step 1-4 and enter into percentage measurement program.			
Short Press [MENU] Key	5. Select Percentage weighing Mode (Two)	INPUT	1.4.2
Short Press [CAL] Key	6. Begin to set the percentage value manual	10000	1.4.2.1
	○ Press [UNIT] key to move cursor, press [PRINT] key to select the target Number. (Example 100g)		
Short Press [CAL] Key	7. Make sure that enter value is corresponds to 100%	000 %	
	8. Put any other unknown samples (Example 79%)	7900 %	
	○ Remove the reference sample and add the unknown sample to determine its relative weight.		
Press [TARE] Key	9. Exit the percentage measurement		

Fifth Part: Basic Function Setting

Basic Function Setting (Menu Code 2)

Purpose


Operator can set machine basic function by selecting parameter in Menu.

Double Weighing Rang, Dual Precision Function Setting (Menu Code 2.1.)

Operator can set machine's parameter to reach different require of capacity and precision.

(Not all machines has double weighing range and dual weighing precision. It's only for some types. Please refer to Page 30: detail specification)

Instance (Example: 2000g/0.01)

<i>Key (Order)</i>	<i>Step Explanation</i>	<i>LCD Screen Display</i>	<i>Menu Level and Code</i>
Press and Hold [MENU] Key	1. Display Menu	- - n o d E -	1.
Short Press [MENU] Key	2. Enter Into Setting Menu	- - b a s E -	2.
Short Press [CAL] Key	3. Display double weighing range and dual weighing precision	- S C A L E -	2.1.
Short Press [CAL] Key	4. Flash the present type No.	200002	2.1.1
Short Press [PRINT] Key	5. Flash Another type No.	3000025	2.1.1
Short Press [CAL] Key	6. Confirm the select type and return to previous menu	- S C A L E -	2.1.
Short Press [TARE] Key Two times	7. Setting Finished and Return to Standby		


⚠ For ensuring the accuracy of machine, please must do linearity calibration after change the capacity and precision.

Note: The grey color words is flash signal.

Turn On/Off the Units (Menu Code 2.2.)

Operator can turn on or off the unit to display or hide the relative weighing units.

Instance (Example: 2000g/0.01)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	--mode--	1.
Short Press [MENU] Key	2. Enter Into Setting Menu	--base--	2.
Short Press [CAL] Key	3. Display double weighing range and dual weighing precision.	-SCALE-	2.1.
Short Press [MENU] Key	4. Enter Into Unit Turn ON/OFF Mode	--UNIT--	2.2.
Short Press [CAL] Key	5. Display Unit ct and flash "ON"	ct - ON	2.2.1.01
Short Press [PRINT] Key	6. Display Unit ct and flash "OFF"	ct - OFF	2.2.1.01
Short Press [MENU] Key	7. Cycle to another unit oz and flash "ON"	oz - ON	2.2.1.02
Short Press [PRINT] Key	8. Display Unit oz and flash "OFF"	oz - OFF	2.2.1.02
○ Repeat Step 7-8 can change unit on/off one by one. ct, oz, ozt, dwt, GN, lb, N, dr, tIT, tIs, tIH, T, T/A/R, /A/R, ms, bat, mom, /lb, kg			
Short Press [CAL] Key	9. Confirm the display or hide units		
Short Press [TARE] Key Two times	10. Setting Finished and return to Standby		

Note: The grey color words is flash signal.

Basic Function Setting

Date Setting (Menu Code 2.3.)

Operator can setup machine date by setting menu.

Instance (Example : 2012Y-08M-10D)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	--mode--	1.
Short Press [MENU] Key	2. Enter Into Setting Menu	--base--	2.
Short Press [CAL] Key	3. Display double weighing range and dual weighing precision.	-SCALE-	2.1.
Short Press [MENU] Key Two times	4. Enter Into Date Setting	--date--	2.3
Short Press [CAL] Key	5. Display Year ○ Operator can set year by press [UNIT] key to move cursor and press [PRINT] to cycle and select number.	year - 12	2.3.1
Short Press [MENU] Key	6. Display Month ○ Operator can set month by press [UNIT] key to move cursor and press [PRINT] to cycle and select number.	month - 08	2.3.2
Short Press [MENU] Key	7. Display Day ○ Operator can set day by press [UNIT] key to move cursor and press [PRINT] to cycle and select number.	day - 10	2.3.3
Short Press [CAL] Key	8. Confirm the date and return to previous menu	--date--	2.3.
Short Press [TARE] Key Two times	9. Finish Setting and return to Standby	<div> <div>12:08:22</div> <div>10:28:50</div> <div>000</div> <div>230</div> </div>	

Note: The grey color words is flash signal.

Time Setting (Menu Code 2.4.)

Operator can setup machine date by setting menu.

Instance (Example: 20:15:50)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	--mode--	1.
Short Press [MENU] Key	2. Enter Into Setting Menu	--base--	2.
Short Press [CAL] Key	3. Display double weighing range and dual weighing precision	-SCALE-	2.1.
Short Press [MENU] Key Three times	4. Enter Into Time Setting Mode	--11--	2.4
Short Press [CAL] Key	5. Display Hour ○ Operator can set hour by press [UNIT] key to move cursor and press [PRINT] to cycle and select number.	Hour-20	2.4.1
Short Press [MENU] Key	6. Display Minutes ○ Operator can set minutes by press [UNIT] key to move cursor and press [PRINT] to cycle and select number.	11--15	2.4.2
Short Press [MENU] Key	7. Display Second ○ Operator can set second by press [UNIT] key to move cursor and press [PRINT] to cycle and select number.	SEC--50	2.4.3
Short Press [MENU] Key	8. Display Time Mode ○ Operator can press [PRINT] key to select 24 hours or 12 hours	H----24	2.4.4
Short Press [CAL] Key	9. Confirm the Time and return	--11--	2.4.
Short Press [TARE] Key Two times	10. Setting finished and return to standby	<div> <div> 12.0 8:22 10:28:50 </div> <div> 000 g 238 </div> </div>	


Note: The grey color words is flash signal.

Basic Function Setting

Correct Temperature (Menu Code 2.5.)

Operator can set the display temperature by setting menu.

Instance (Example: 2000g/0.01)


Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	--mode--	1.
Short Press [MENU] Key	2. Enter Into Setting Menu	--base--	2.
Short Press [CAL] Key	3. Display double weighing range and dual weighing precision.	-SCALE-	2.1.
Short Press [MENU] Key Four times	4. Enter Into Correct Temperature Mode ○ Operator can set temperature by press [UNIT] key to move cursor and press [PRINT] to cycle and select number.	TEMP 00	2.5.5
Short Press [CAL] Key	5. Confirm the temperature and return	--base--	2.
Short Press [TARE] Key	6. Finish the setting and return to standby		

Note: The grey color words is flash signal.

Backlight On/Off Setting (Menu Code 2.6)

Operator can turn on/off backlight by setting menu.


Instance (Example: 2000g/0.01)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	--n0dE--	1.
Short Press [MENU] Key	2. Enter Into Setting Menu	--bA5E--	2.
Short Press [CAL] Key	3. Display double weighing range and dual weighing precision.	-SCALE-	2.1.
Short Press [MENU] Key Five times	4. Enter into backlight setting and flash "ON"	bL -- ON	2.6
Short Press [PRINT] Key	5. Turn off backlight and flash "OFF"	bL -- OFF	2.6
Short Press [PRINT] Key	6. Backlight turn on/off automatically and flash "AUTO"	bL -- Aut	2.6
Short Press [CAL] Key	7. Confirm the backlight setting and return	--bA5E--	2.
Short Press [TARE] Key	8. Finish the setting and return to standby		

Buzzer On/Off Setting (Menu Code 2.7)

Operator can turn on/off the buzzer sound by setting menu.

Instance (Example: 2000g/0.01)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	--n0dE--	1.
Short Press [MENU] Key	2. Enter Into Setting Menu	--bA5E--	2.
Short Press [CAL] Key	3. Display double weighing range and dual weighing precision.	-SCALE-	2.1.
Short Press [MENU] Key Six times	4. Enter into buzzer setting and flash "ON"	beep ON	2.7
Short Press [PRINT] Key	5. Turn off buzzer and flash "OFF"	beepOFF	2.7
Short Press [CAL] Key	6. Confirm the buzzer setting and return	--bA5E--	2.
Short Press [TARE] Key	7. Finish the setting and return to standby		

Sixth Part: Communication Setting

Communication Function Setting (Menu Code: 3)

Purpose

Operator can select the communication way by setting the menu.

Baud Rate Setting (Menu Code 3.1)

Select different baud rate for different output required.

Machine ID No. Setting (Menu Code 3.2)

For recognize each machine by different ID No.

FMT Setting (Data Frames Format) (Menu Code 3.3)

Select different data format for different output required.

COM Setting (Communication Way) (Menu Code 3.4)

Select different communication way for output different signal.


PRT Setting (Print Way) (Menu Code 3.5)

Select different printing way for different output.

KEY Setting (Transfer the Signal) (Menu Code 3.6)

Select the menu and switch the signal from computer to other equipment (such as printer), or send signal to both at the same time.

Instance (Example: 2000g/0.01)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	-- mode --	1.
Short Press [MENU] Key two times	2. Enter into Communication Setting	-- [on] --	3.
Short Press [CAL] Key	3. Enter into Baud rate Setting ○ Press [PRINT] key and select different baud rate in turns: 12: 1200bps, 24: 2400bps, 48: 4800bps, 96: 9600bps	baud-96	3.1
Short Press [MENU] Key	4. Enter into Machine ID Setting ○ Operator can set Machine ID from 001 to 255, Press [UNIT] key to move the cursor and press [PRINT] key to select the number.	id--255	3.2
Short Press [MENU] Key	4. Enter Into Data frames format Setting ○ Press [PRINT] key can select ASC (ASCII format) or RTU (Modbus RTU)	fmt-ASC	3.3
Short Press [MENU] Key	4. Enter Into Communication Way Setting ○ Press [PRINT] key can select: NON: turn off communication, CON: communicate continuously, STY: communicate while steady, KEY: communicate only press [PRINT] key, SOFT: communicate with Software, Txxx: Communicate every XX seconds.	[on] KEY	3.4
Short Press [MENU] Key	4. Print Way Setting ○ Press [PRINT] key can select: NON: turn off print, KEY: print only press [PRINT] key, SOFT: Print by software order, Txxx: Print every XX seconds.	prt KEY	3.5
Short Press [MENU] Key	4. Peripheral Equipment Setting ○ Press [PRINT] key can select: KEY.COM, KEY.PRT, KEY.ALL ○ Short Press [CAL] key to select KEY.COM and return: Machine send signal to computer when press [PRINT] key. Short Press [CAL] key to select KEY.PRT and return: Machine send signal to printer when press [PRINT] key. Short Press [CAL] key to select KEY.ALL and return: Machine send signal to printer and computer both when press [PRINT] key.	KEY-[on]	3.6
Short Press [CAL] Key	5. Confirm and return to previous menu	-- [on] --	3.
Short Press [TARE] Key	6. Finish Setting and return to standby		

Note: The grew color parts is the following operation after Step 1-3 baud rate Setting.

Print Data Frames Format

Print Data of Weighing Mode (Example: 2000g/0.01)

TYPE:20002	Machine Type
ID:1	Identification
DATE:12-01-01	Date
TIME:00-08-08	Time (From measuring)
TEMP:26.8C	Room Temperature
BAT:FULL(EXT)	Power Status
-----	Broken Line
MODE:NORMAL	Mode
REF:1000.00g	Calibration Weight Mass
STATUS:STEADY	Present Status
STEP:NONE	Present Step
TARE:NONE	Tare Status
ZERO:NATURAL	Zero Status
WT:0.00g	Weighing Result
----COMPLETE----	END
SIGNATURE:	Signature
	Blank

Seventh Part: Machine Weighing Config Setting

Machine Weighing Config Setting (Menu Code 4.1)

Purpose

Operator can set the machine basic weighing config to change the weighing capability to reach different required.

Zeroing Range Setting (Menu Code 4.1)

Operator can increase or decrease the zeroing range for they need.

Digit Range Setting (Menu Code: 4.2)

Operator can increase or decrease digit range for they need.

Sensitivity Level Setting (Menu Code 4.3)

Operator can adjust the sensitivity by increase or decrease the level.

Anti-Vibration Level Setting (Menu Code 4.4)

Operator can adjust the weighing response time and anti-vibration strength by increase or decrease the level.

Instance (Example: 2000g/0.01)

Key (Order)	Step Explanation	LCD Screen Display	Menu Level and Code
Press and Hold [MENU] Key	1. Display Menu	--mode--	1.
Short Press [MENU] Key Three times	2. Enter Into Config Setting Menu	-SETUP-	4.
Short Press [CAL] Key	3. Enter Into Zeroing Range Setting	Zero-00	4.1
	○ Press [PRINT] key can select different zeroing range in turns: 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0		
Short Press [MENU] Key	4. Enter Into digit range setting	Stdy-05	4.2
	○ Press [PRINT] key can select different digit range in turns: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0		
Short Press [MENU] Key	4. Enter Into Sensitivity Level Setting	SENS--1	4.3
	○ Press [PRINT] key can select 1-7, totally 7 levels of sensitivity range.		
Short Press [MENU] Key	4. Enter Into Anti-Vibration level Setting	FILT--1	4.4
	○ Press [PRINT] key can select 1-7, totally 7 levels of Anti-Vibration level Setting		
Short Press [CAL] Key	5. Confirm the setting and return to previous menu	-SETUP-	4.
Short Press [TARE] Key	6. Finish setting and return to standby	<div> <div>12.0 8.22</div> <div>10.2 8.50</div> <div>000</div> <div>g 238</div> </div>	

Note: The grew color parts is the following operation after Step 1-3 baud rate Setting.

Eighth Part: Restore Factory Setting

Restore the machine Config (Menu Code 5)

Purpose

Operator can restore the machine to factory setting by input the code in menu.

Instance (Example: 2000g/0.01)

<i>Key (Order)</i>	<i>Step Explanation</i>	<i>LCD Screen Display</i>	<i>Menu Level and Code</i>
Press and Hold [MENU] Key	1. Display Menu		1.
Short Press [MENU] Key Four times	2. Enter Into restore factory setting function		5.
Short Press [CAL] Key	3. Enter Into the input code ○ Press [UNIT] key to move the cursor and press [PRINT] key to select the number. THE CODE IS: 8888		5.1
Short Press [CAL] Key	4. Confirm and return to previous menu		5.
Short Press [TARE] Key	5. Finish Setting and return to standby		

For the convenience of operator remember the code, the restore factory setting code all is: 8888. Operator can not set other code.

Note: The grey color words is flash signal.

Ninth Part: Unit Switching

Unit Switching

Press (UNIT) Key, the weighing unit will cycle between the different weighing units with each press of the button. The balance will default to the last unit used when turned on the next time.

Unit Signal	Unit	Unit Exchange Rate
g	<i>Gram</i>	1
ct	<i>Carat</i>	5
oz	<i>Ounce</i>	0.03527396200
ozt	<i>Troy Ounce</i>	0.03215074700
dwt	<i>Pennyweight</i>	0.64301493100
GN	<i>Grains</i>	15.43235835000
lb	<i>Pound</i>	0.00220462260
N	<i>Newton</i>	0.00980654189
dr	<i>Dram</i>	0.56438222222
tlT	<i>Taiwan Tael</i>	0.02666666000
tlS	<i>Singapore Tael</i>	0.02645544638
tlH	<i>Hong Kong Tael</i>	0.02671725000
T	<i>Tola</i>	0.08573532418
T/A/R	<i>tola / anna / rati T.A.R</i>	
/A/R	<i>tola / Mna / rati T.M.R</i>	
ms	<i>Mesghal</i>	0.21700000000
bat	<i>Baht</i>	0.06578947437
mom	<i>momme</i>	0.26670000000
/lb	<i>Parts per pound</i>	1.12876677120
kg	<i>Kilogram</i>	0.00100000000

Tenth: Operating Menu

○ Factory Settings

	Menu Level One	Menu Level Two	Menu Level Three	Default Setting	Menu Items
Table	1. Application	1.1. Counting Mode	1.1.1	○	Reference Counting Quantity
		1.2. Density Mode	1.2.1	○	Solid Density
			1.2.2		Liquid Density
			1.2.3		Previous saving data of Standard Liquid Density
		1.3. Dynamic Mode	1.3.1	○	Dynamic Weighing Time 10 Seconds
		1.4. Percentage Mode	1.4.1	○	Percentage Weighing
			1.4.2		Set Percentage Weight
	2. Basic Function	2.1. Weighing / Precision Selection		○	First Weighing Range
		2.2. Turn On/Off the Units		○	Turn On All Unit
		2.3. Date Setting	2.3.1	○	Year
			2.3.2	○	Month
			2.3.3	○	Date
		2.4. Time Setting	2.4.1	○	Hour
			2.4.2	○	Minute
			2.4.3	○	Second
			2.4.4	○	24 Hours Mode
			2.4.5		Modify Time Speed
		2.5. Temperature Setting			Correct Temperature
		2.6. Backlight Setting		○	Turn On Backlight
		2.7. Buzzer Setting		○	Turn On Buzzer
	3. Communication	3.1. Baud Rate		○	Baud Rate: 9600
		3.2. Machine ID Number		○	ID: 001
		3.3. Data frames Format		○	ASCII Format
		3.4. Communication Way		○	KEY (Manual)
		3.5. Print Way		○	KEY (Manual)
		3.6. Transfer the Signal		○	KEY.COM
	4. Weighing Capability	4.1. Zeroing Range Setting		○	Zeroing Range 1.5
		4.2. Digit Range Setting		○	Digit Range 1.0
		4.3. Sensitivity Level Setting		○	Sensitivity Level 3
		4.4. Anti-Vibration Level Setting		○	Anti-Vibration Level 5
	5. Restore Factory Setting	5.1. Restore Machine		○	Code 8888

Menu Items Explanation

Menu Level Four	Menu Items Explanation
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Operator can select 10, 20, 50, 100, 150, 200, 250, 500, 1000pcs in turns or set any other number.

1.2.1.1 Operator can select 10 previous saving data of standard solid density.

1.2.2.1 Operator can save 1 data of standard liquid density previously.

1.2.3.1 Operator can save 10 data of standard solid density previously.

Operator can select 02, 05, 10, 15, 20, 30, 40, 50, 60 seconds in turns or set any other number from 0-99.

1.4.1.1 Sample

1.4.2.1 Operator can set any weight within weighing range.

Operator can switch the weighing range and precision.

2.2.1.01 Machine has 20 units available. They are: g,ct,oz,ozt,dwt,GN,lb,N,dr,tT,tls,tIH,T,T/A/R,/A/R,ms,bat,mom,/lb,kg

Operator can set 12 hour mode or 24 hour mode.

Modify time speed to quicker or slower.

Modify temperature.

Operator can select turn on, turn off or automatically.

Operator can select turn on or turn off the buzzer.

Operator can select baud rate from 1200, 2400, 4800, 9600.

Operator can set ID from 001-255.

Operator can set weighing data output format with ASCII or Modbus RTU.

Operator can set communication way of NON, CON, STY, KEY, SOFT, Txxx (001-999 second).

Operator can set print way of NON, KEY, SOFT, Txxx (001-999 second).

Operator can select RS232 signal output way of KEY.COM (Computer), KEY.PRT (Printer), KEY.ALL (Computer and Printer).

Operator can select zeroing range : 0.5 , 1.0 , 1.5 , 2.0 , 2.5 , 3.0 , 3.5 , 4.0 , 4.5 , 5.0 in turns.

Operator can select digit range : 0.5 , 1.0 , 1.5 , 2.0 , 2.5 , 3.0 in turns.

Operator can select sensitivity level with 1-7 level. The higher level come with higher sensitivity.

Operator can select anti-vibration level with 1-7 level. The higher level come with higher anti-vibration.

Restore the factory setting code is 8888. Operator can not set other code.

Eleventh: Machine Detail Specification Cable

Item No.	Weighing Range(g)	Readability (mg)	Repeat-ability(mg)	Linearity (mg)	Operate Temp(℃)	Pan Size (mm)	Housing Size (LxWxH)(mm)	Warm-up Time (m)
	100 / 20							
	200 / 20	0.1 / 0.01	± 0.1/ ± 0.02	± 0.2/ ± 0.03	18-23	∅ 80	345x223x331	90-120
	200 / 40							

	110	0.1	± 0.1	± 0.2	18-23	∅ 80	345x223x331	60-120
	210							
	110							
	210			± 2		∅ 90		
	310	1	± 1		12-28		345x223x331	60-90
	510			± 3		∅ 108		
	620							

Item No.	Weighing Range(g)	Readability (mg)	Repeat-ability(mg)	Linearity (mg)	Operate Temp(°C)	Pan Size (mm)	Housing Size (LxWxH)(mm)	Warm-up Time (m)
	100 / 20							
	200 / 20	0.1 / 0.01	± 0.1/ ± 0.02	± 0.2/ ± 0.03	18-23	∅ 80	345x223x331	90-120
	200 / 40							

	110	0.1	± 0.1	± 0.2	18-23	∅ 80	345x223x331	60-120
	210							
	110							
	210			± 2		∅ 90		
	310	1	± 1		12-28		345x223x331	60-90
	510			± 3		∅ 108		
	620							

Twelfth: Proper Care and Maintenance

Repair

Only trained technician was authorized to repair the problem machine.

Clean

- Pull out the adapter from electrical outlet and cable from machine.
- Use soft cloth with neutral cleanser to clean the machine housing.
- Dry the housing with soft cloth and then take out the weighing pan and wash it.
- When take up the weighing pan and bracket, make sure that don't broken the weighing system.
- ⚠ Do not let the liquid flow into machine.
- ⚠ Do not use the caustic cleanser.

Wash stainless steel surface

Use soft cloth or sponge to clean all stainless steel parts need to clean often and completely. Only home appliances cleanser available for clean the stainless parts. Wipe up the stainless steel parts surface first, wash up all leftover second and then dry it. Oil the stainless steel surface if necessary.

Guarantee

Do not ignore your warranty rights.

If machine have problem in guarantee period, please contact local distributor.

- We carry out The Guarantees strictly according to national regulation
- The guarantee period is one year from the date of sell. The guarantee machine is with correct install and usage, not man-made problem. Send back machine to local distributor or seller with proper packing (include warranty card). We will exchange a new one or repair and return machine to you within one week from we receive it.
- Battery, load cell and Magnetic cylinder is not including in guarantee range.
- If the problem machine exceed the guarantee time limit or was damage by man-made, we will charge the reasonable labor and material cost, delivery cost and any other possible cost.

Product Guarantee Elucidation

We guarantee that under proper using situation, We provide one year repairing service include material and technical support after selling date.

In Guarantee period, if machine broken or damage because of material or techniques, We will repair or replace the problem parts which has been proved. Please contact our Local office when machine need repairing.

The Guarantee Card will be inefficacy with wrong operating and not according as the operating manual. The Guarantee Card will be inefficacy with any damage or broken by unauthorized person's repairing or replacement.

We are not in charge with apparent or intentional disobeying the guarantee rule which cause machine any relevant or accidently broken.

