M / OPR / 02

CONTECH®
Instruments Ltd.

Corporate Office:
301, Punit Indl. Premises, Turbhe Naka, Navi Mumbai - 400 705.
Tel.: +91 22-2761 1176 / 77 / 78 / 79 / 80, 2761 8431
6139 3000 **Fax:** +91 22-2761 8421
E-mail: sales@contechindia.in / info@contechindia.in
Website: www.contechindia.com

Factory: Plot No. EL-221 TTC Indl. Area, MIDC (Electronic Zone),
Mhape, Navi Mumbai-400 710.
Tel.: +91 22-6194 4000 **Fax:** +91 22-2761 8374

CIL-CB-5-2009/2K JPG

CAH / CBB SERIES

OPERATING MANUAL

FLAMEPROOF BALANCE

CONTECH®

CONTENTS

1. BALANCE SKETCHES
2. WDS ASSEMBLY SKETCH
3. DENSITY KIT SKETCH
4. INTRODUCTION
5. INSTALLATION
6. BALANCE OPERATIONS & FUNCTIONS

1) KEYBOARD DESCRIPTION.
2) CHANGING WEIGHING UNITS
3) CHANGING DATE/TIME/Sr.NO.
4) PRINT OPTION
5) RS232 INTERFACE
6) STORAGE OF WEIGHTS
7) POWER SAVING MODE.
8) PEAK HOLD MODE.
9) PIECE COUNTING MODE
10) SET POINT FACILITY
11) SIMPLE TARE MODE.
12) DENSITY DETERMINATION OF SOLIDS.
13) TEXTILE COUNTS
14) GSM APPLICATION
15) PERCENTAGE WEIGHING.
16) AUTOCALIBRATION WITH STANDARD WEIGHTS.
17) WEIGHT SLIP PRINTING.

7. SETUP FUNCTIONS

Warranty

CONTECH INSTRUMENTS LTD warrants all its products against defects in material and workmanship for a period of one year, subject to terms and conditions stated below and as further modified by warranty Amendment, in each product instruction manual. The warranty card must be registered with us within 15 days of purchase.

1. Warranty period will commence from the date of shipment from **CONTECH**® to the original buyer.
2. All warranty repairs are normally done at our factory in Mumbai and our decision about faulty materials or workmanship will be final. The instrument should be sent in the original packing to our factory at the address given below. Postage /Airfreight charges both ways are to be borne by the customer.
3. If any of our product is opened by any one other than our engineers or our authorised representatives, this warranty will become null and void and **CONTECH**® will be relieved of all responsibilities as to the service and operation of the said product.
4. This warranty will not be applicable to :
   a) Shipping damage or damages incurred while products are in transit.
   b) Correction of operational problems arising out of environmental conditions beyond our control.
   c) Maintenance necessitated by customer neglect, misuse, improper operation of the instrument or equipment.
   d) Work necessitated by damages from war, accident, fire, flood, electrical failure, vandalism or any other causalities.
   e) Repairs due to customers failure to perform any routine maintenance prescribed in the instruction manual.

(The routine inspection of calibration and other parameters should be done periodically by the user)

5. **CONTECH**® shall not be liable for any consequential damages nor labour loss or expense directly or indirectly arising from use of its products.,
6. Amendments, assumed corollaries or statements contrary to the terms of this warranty shall not be binding on us unless they are put in writing and approved by us.
7. Any disputes arising out of usage of this products will be subject to Mumbai jurisdiction.
8. For warranty service, contact your local dealer or contact us on the below address.

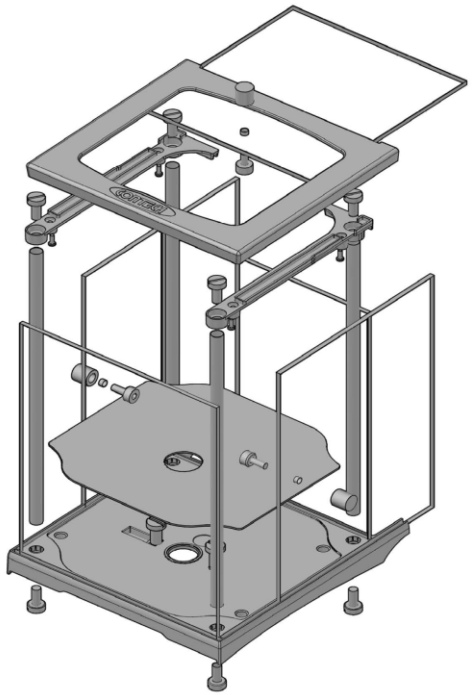
Corporate Office: 301, Punit Indl. Premises, Turbhe Naka, Navi Mumbai - 400 705.
Tel.: +91 22-2761 1176 / 77 / 78 / 79 / 80, 2761 8431 , 6139 3000 **Fax:**+91 22-2761 8421
E-mail: sales@contechindia.in / info@contechindia.in
Website: www.contechindia.com

Factory: Plot No. EL-221 TTC Indl. Area, MIDC (Electronic Zone),
Mhape, Navi Mumbai-400 710.
Tel.: +91 22-6194 4000 **Fax:** +91 22-2761 83[illegible]

Product : _____ Purchase Ref.:_____
Model No.: _____ Invoice No.: _____
Sr. No.: _____ Date : _____

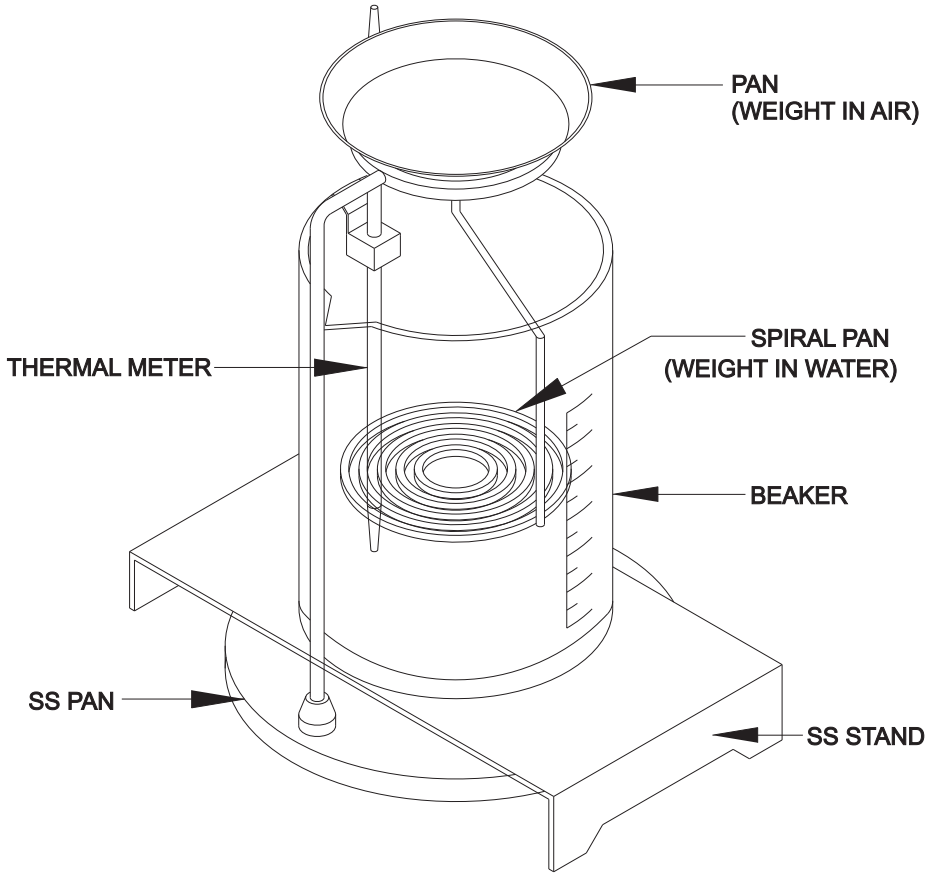
Dealer's Name & Address: _____
_____
_____

WDS ASSEMBLY SKETCH



BREEZE SHIELD EXTRACT VIEW

DENSITY KIT SKETCH



INTRODUCTION

Contech® CAH-CBB Series weighing balances use Electro magnetic force compensation technique to measure precisely the weight of and object. The following features enable the user to suit these balances for variety of applications.

Range :
0.1 mg – 300g
1mg – 1000g
0.01g – 3kg
0.1g – 5kg

Features:

* Multiple weighing units , Gram, Carat, Tola, , Pound , Grains, GSM, % weighing
* Piece counting facility, up to 25 different types.
* Storage of weights in memory and printing, up to 100 weights.
* Power saving mode.
* Bi-directional RS232 interface to interface with computers and printers.
* Selectable baud rate.
* Set point facility up to 2 limits.
* Auto Power off.
* Optional Peak Hold facility.
* Date and time facility.
* Multiple Print options with Sr. no., Date, Time and weight in Horizontal/Vertical mode.
* Automatic zero tracking.
* Density determination option.
* Optional Battery backup facility.
* GSM computation
* % weighing & Calibration.
* Weight slip printing option.

INSTALLATION

1. Unpacking:
Unpack the balance. Save the packing container for future use.

2. Electrical requirements:
The balance requires very stable power. It works on 230V AC supply with PROPER EARTHING. The power outlet used for the balance should not be shared with any other devices which draws current in inconsistent manner like Airconditioner or refrigerator etc.

3. Environmental requirements:
For best results, the balance should be placed on a level surface which is free from drafts. It should not be exposed to direct sunlight or radiated heat. The balance should not be subjected to sudden ambient temperature changes. Table used for balance should be sturdy and should not transmit vibration from other equipments and free from the movement of people. No vibration producing equipment should be operated on the same platform balance

START UP

CAH-CBB Series

Power is supplied to the scale through a 4 pin Switch mode power supply supplied along with the balance. Connect the 4 pin SMPS to the balance to a 4 pin round male connector provided at the rear panel of the balance. Insert the connector and rotate the external cover to make the connection firm and proper. Connect the 4 pin SMPS to a proper AC mains outlet with proper Earthing.

BALANCE OPERATIONS & FUNCTIONS

1) KEYBOARD DESCRIPTION :

- TO SETTING BALANCE DISPLAY ON OR OFF.
- USED FOR SETTING VARIOUS PARAMETERS
- CHANGING FUNCTIONS/PARAMETERS
- CHANGING FUNCTIONS/PARAMETERS.
- TO SELECT A PARAMETER/DATA
- AUTO CALIBRATION
- PRINTING INFORMATION THROUGH SERIAL PORT
- TARES THE BALANCE

2) CHANGING WEIGHING UNITS :

Press △ OR ▽ key,

Balance will show the next enabled weighing unit say

CArAt

And Carat will be selected.

Use △ OR ▽ keys to change between the enabled weighing units.

Note that all weighing functions except the basic weighing unit need to be enabled using SETUP functions. Refer section on SETUP for more details. Please note that some of the weighing functions in the balance may be illegal in some countries. They should be not be made available to the end user.

BALANCE OPERATIONS & FUNCTIONS

3) FOR CHANGING DATE,TIME AND SERIAL NO:

Press SET UP key, the balance will show SEtUP

And immediately press ▽ key, balance will show DATE

dt 12 (if the current date is 12)

where **12** is the current date. Press ENTER Key

Use →T to make it 0 or use △ and ▽ keys to change date and press ENTER key to store the date.

Press SET UP key to skip date entry.

The balance will display

mn 10 (if the current month is 10). Press ENTER Key

where **10** is the current month. Use →T to make it **0** or use △ and ▽ keys to change month and press ENTER key to store the month.

Press SET UP key to skip month entry.

The balance will display Yr 06 (if the current year is 06)

Press ENTER Key

Where **06** is the current year. Use →T to make it **0** or use △ and ▽ keys to change year and press ENTER key to store the year. Press SET UP key to skip year entry.

The balance will display

HH.mm.SS

where hh.mm.ss is the current time. Press SET UP key to change the time

or press T key to quit time entry.

Press SET UP key, the balance will show,

Hr 12 (if the current hour is 12)

where **12** is the hour. Use T to make it 0

or use △ and ▽ keys to change hour.

Press ENTER key to save. Press SET UP key to skip hour entry.

Balance will display

Min 10 (if the current minute is 10)

where **10** is the minute. Use T to make it **0**

or use △ and ▽ key to change minute.

Press ENTER key to save. Press SET UP key to skip minute entry.

Balance will display Sr 1234 (if the current Serial No. is 1234)

where 1234 is the current serial no. Use T to make the serial no.0 or

press △ and ▽ key to change serial number. Press ENTER key to save.

4. Print Option:

These balances can be attached to a serial printer for your printing needs. Print out can be programmed to suit most of the printing requirements. Note that the printer should have a serial port and baud rate of the balance and printer should be same. 2 baud rates are available are. 2400 and 4800.

Press PRINT key to print weight through the serial port.

Printing option and patterns are controlled by 4 SETUP parameters.

They are

a) Print : There are 4 options

I) SingLE - Press PRINT key to start printing weight and other details programmed as per (b), (c) and (d) below.

ii) StAbLE - Printing is initiated when the weight kept on the pan becomes stable.

iii) ALL - All the displayed weights are printed along with other details programmed as per (b), (c) below.

iv) StorE To print weights stored in memory along with details programmed as per (b) & (c) below.

b) Pr.Fnt Printer format. 6 printout formats are available.

I) Pr F-1 - Only weight.
ii) Pr F-2 - Serial no and weight.
iii) Pr F-3 - Serial no, Date and weight.
iv) Pr F-4 - Serial no., Time and weight.
v) Pr F-5 - Serial no., Date, Time and weight.
vi) Pr F-6 - Weight slip printing.

c) P-TYPE Print type (Horizontal or Vertical)

I) P.TYPE 1 – Horizontal
Details will be printed horizontally.

Sr.No.	Date	Time	Weight
001	12.05.2002	13:25:00	23.54 g
002	12.05.2002	13:27:05	23.23 g

ii) P.TYPE 2 – Vertical
Details will be printed vertically in a slip form.

For ex.
Sr.No. : 001
Date : 12.05.2002
Time : 13:25:00
Weight : 24.45 g

Set the above parameters (a) to (c) to your requirements and effect printing. These parameters are available in SETUP functions.

BALANCE OPERATIONS & FUNCTIONS

5) BI-DIRECTIONAL RS232-INTERFACE.

Bi-directional RS-232 interface is provided in these balances to communicate with devices like computer, printer etc. The interface is provided through a nine pin D-type connector provided at the rear side of the balance. Connections are as below.

Pin 2 – RXD – Receive Data
Pin 3 - TXD – Transmit Data
Pin 7 – Ground.

The Serial data transmitted and received are in standard ASCII mode (+/- 15V) - ASYNCHRONOUS , 8 BITS, NO PARITY, 1 STOP BIT.

Baud rate : 2400 OR 4800 SELECTABLE.

The data format for weight output is

<+/->WWWWWW.WWb <bg/Ct> <CR><LF> (15 characters)
where WWWWWW.WW is the weight
b – blank space - 20 hex
CR- Carriage Return – 0D hex
LF – Line feed - 0A hex
for example, weight 85.12 g will be sent as

+	0	0	0	0	8	5	.	1	2	b	b	g	CR	LF

where b=black(20H), CR=carriage return (0dH)
LF=line feed (0a H)

The balance could be controlled by an external device like computer with the following commands.

Z - Tares the balance.

W# - Number of times, the weight data is to be transmitted through the serial port.
can be any number from 1-9.

6. STORAGE OF WEIGHTS IN MEMORY:

Upto 100 weights can be stored in memory and recalled if required. The balance also computes the total weight of all the weights in memory. To use this option, set ACCU function to ON in SETUP functions.

a) Clear weights in memory.

Press ENTER key, the balance will display ----------

Press △ key immediately, balance will display StorE

Press →T key, balance will display CLEAr

Press ENTER key to clear the memory.

Weights in memory and total weight will be cleared.

b) Storing weight in memory.

Remove all the weights from the pan and make the weight zero by pressing →T key.

Keep the sample on the pan and wait till the count becomes stable.

Press ENTER key, the balance will display ----------

Press △ key immediately, balance will display StorE

Press ENTER key to store the weight in memory.

Press →T key to quit mode.

c) Recalling weights from memory.

Press ENTER key, the balance will display ----------

Press △ key immediately, balance will display StorE

Press ▽ key, balance will display no XX
(displays the sample no.)
followed by xxx.xx (displays the weight)

Press △ and ▽ keys to see all sample weight data.

After the balance displays the last weight data, it will display Total count and total number of samples.

If STAT function is enabled(See SETUP function) then the balance displays AU xxx.xx (Average weight)

Press ▽ key, balance displays nX XXX.XX (Maximum weight)

Press ▽ key, balance displays nn XXX.XX (Minimum weight)

Press ▽ key, balance displays Sd XXX.XX (Standard deviation)

Press ▽ key, balance displays CU XXX.XX (Coefficient of Variation)

While viewing the above, Press PRINT key to print all the results on a serial printer. Sample printout will appear as below.

(Set PRINT option to “ StorE ” in SETUP)

Sr.no.	DATE	TIME	WEIGHT
1.	12.10.04	13:30:20	12.56 g
2.	12:10.04	13:31:05	12.50 g
3.	12.10.04	13:31:25	13.40 g
4.	12.10.04	13:31:50	12.90 g
5.	12.10.04	13:32:05	12.03 g
6.	12.10.04	13:32:40	12.30 g
7.	12.10.04	13:32:55	12.56 g
8.	12.10.04	13:33:20	13.00 g
9.	12.10.04	13:33:55	11.95 g
10.	12.10.04	13:34:30	12.50 g

TOTAL	:	125.70 g
AVERAGE	:	12.57g
MAXIMUM	:	11.95g
MINIMUM	:	13.40g
STD. DEV.	:	0.439
C.V.	:	3.50%

BALANCE OPERATIONS & FUNCTIONS

7) POWER SAVING MODE

Power saving mode feature will further enhance the battery backup time by switching off the display whenever the weight displayed is zero. The balance will come out of Power saving mode when the displayed weight is not zero.
To enable this feature , refer SETUP mode.

8) PEAK HOLD MODE

Peak hold feature will enable the balance to hold the display to the maximum weight (Peak weight) displayed. When used in this mode, the balance will be continuously displaying the maximum or peak weight measured by the balance, even after the weight is removed from the pan. This feature is optional.

For using this mode, this function should be enabled in the SETUP mode.

For putting the balance into PEAK HOLD mode,

Press SETUP and →T keys simultaneously. The balance will show,

-PEA-

Press SETUP and →T keys to exit peak hold mode, the balance will display

nor

9) PIECE COUNTING MODE

Contech CAH-CBB series balances can be used for piece counting purposes also. Piece calibration of 25 items can be stored in memory. Accuracy of piece counting depends on the uniformity in weight of the items and the sample size used for piece calibration. Better the weight uniformity and more the sample size, better will be the accuracy.

Use SETUP function to select proper piece counting mode before using. There is an option to select 1, 10, 25 or none piece counting modes. See relevant section in SETUP functions for more details.

Selection of piece counting memory (item)

Press △ or ▽ keys till the balance displays

Press △ or ▽ keys to change between different piece counting memory

Piece Calibration

Select proper piece counting memory as mentioned above.

Make the Weight read zero by pressing the →T key. Weight of any container/bags used should also be made zero by pressing →T key.

Keep known number of pieces on the pan.

Press F key, the balance will display

PC xxxx

Use △ and ▽ keys to change the number of pieces and make it equal to the pieces kept on the pan.

Press ENTER key. The balance will display

Balance does piece calibration and displays the number of pieces on the pan, say

1 250

10) OPERATING IN SIMPLE TARE MODE:

In SIMPLE mode, balance can be operated in its simplest mode.
In this mode,

Press →T to make the weight zero.

All other functions will be disabled

11) SET POINT FACILITY

This facility enables the user to set up to 2 weights for comparison with the current weights to activate different events. This feature is controlled by 3 SETUP functions.

1. FILL - Make it FL-on
2. SEt-Pt - Make it SEt-1 , SEt-2 for 1 or 2 Set Points
3. F-tYPE - Make it F-TYPE 1 or F-TYPE 2 for event swapping

depending on the requirement.

For setting weights, Press SET UP key, and

immediately followed by ▽ key.

the balance will show

and followed by XXXX.XX

Where XXXX.XX is the current set limit - 1. Use △ and ▽ keys to change the limit.

To discard changes, Press →T & ▽ keys simultaneously or

Press ENTER key to save.

The balance will show

FiLL-2 (If fill option is on and limit is set to SET-2)

For some time and will display XXXX.XX

Where XXXX.XX is the current set limit. Use △ and ▽ keys to change the limit.

To discard changes, Press →T & ▽ keys simultaneously or

Press ENTER key to save.

Set Point 1:

User can set a weight any where in the range of the balance. Depending on the weight on the pan, the following events occur. Buzzer will work only in case of models where buzzer is provided.

F-Type	Weight < Set Wt.	Weight = Set.	Weight > Set wt.
tYPE 1	Buzzer off	Buzzer off	Buzzer on
tYPE 2	Buzzer on	Buzzer off	Buzzer off

Set Point 2:

User can set two weights any where in the range of the balance. Depending on the weight on the pan, the following events occur. Buzzer will work only in case of models where buzzer is provided.

F-Type	Weight within Set Limit	Weight = lower Upper limit	Weight is beyond the limits.
tYPE 1	Buzzer off	Buzzer off	Buzzer on

F-Type	Weight within	Weight = lower	Weight is beyond
tYPE 2	Set Limit	Upper limit.	the limits.
Buzzer on	Buzzer on	Buzzer off	

12) DENSITY DETERMINATION OF SOLIDS

This is an optional feature, valid only if this facility is available in the product supplied. Balance calculates the density of solids based on Archemedis principle and displays it. The sample is weighed in both Air & Water and the balance calculates the density. There is a provision for entering the water temperature, so that necessary correction is applied for calculating density.

There are 2 types of density measurements.

1. Normal mode

$$D = \frac{\text{Weight in Air}}{\text{(Weight in Air - Weight in Liquid)}} \times DL \times DW$$

D – Density
DL – liquid density (Programmable)
DW – Density of Water at measuring temperature.(If water is used)

For DW, Water temperature is programmable from 10 to 50 deg.C

DL is also programmable.

If DL is set to 1.0000 then water temperature correction will be applied.

If DL is set to a value other than 1.000 then water temperature correction will not be applied.

For example Weight in Air = 8.323g , Weight in water = 6.222g
Water temperature = 25deg. Liquid density = 1.0000

Density = 3.9497 g/cc

2. SETTING WATER TEMPERATURE

Measure the temperature of water with a good thermometer. Set the temperature value in the balance by the following.

Press SET UP key, the balance will show SEt UP

And immediately press ▽ key

If date/time or limit functions are enabled balance goes through those entries.

Press SET UP keys repeatedly till the balance displays

tr xx

where xx is the currently stored temperature in memory.

Use △ and ▽ keys to change the temperature and

Press ENTER key to save.

Note that maximum temperature cannot be more than 50 deg.

3. SETTING DENSITY OF LIQUID

Press SET UP key, the balance will show SEt UP

And immediately press △ key

dL X.XXXX

where x.xxxx is the currently stored density.

Use △ and ▽ keys to change the density and Press ENTER key to save.

NOTE : IF THE DENSITY OF THE LIQUID IS PROGRAMMED VALUE OTHER THAN 1.0000 THEN WATER TEMPERATURE CORRECTION WILL NOT BE PERFORMED.
IF DENSITY OF LIQUID IS 1.0000 THEN DENSITY WILL BE CORRECTED FOR WATER TEMPERATURE.

4. DENSITY TESTING

Keep the sample on the upper pan of balance, wait for the weight display to become stable.

Press SET UP key followed by ENTER key. The balance will display

- FirSt -

and the weight(Weight in Air) will be stored in memory.

Remove the sample from the upper pan and keep the same sample on the lower pan immersed in water. Wait for the weight display to become stable.

Press SET UP key followed by ENTER key. The balance will display

- SEcond -

and the weight(Weight in water) will be stored in memory.

The balance now calculates the density and displays it.

d xx.xxx

Use ▽ key. The balance will display weight in air

gA xxx.xx

Press ▽ key again , The balance will display weight in water

gL xxx.xx

Press ▽ key again , The balance will display displaced volume of water

gd xxx.xx

Press ▽ key again , The balance will display density

d xxx.xxx

For viewing the result any time during normal weighing,

Press ENTER followed by △ key.

Press △ key while balance is displaying density to print the results.

For example

WT. IN WATER :	122.56 g	WT. IN AIR :	115.35 g
DISP. VOLUME:	7.21 g	DENSITY :	16.998 g/cc

13) TEXTILE COUNTS

CAH-CBB Series balances directly calculate and display textile counts like cotton count, denier count, Tex Count, Worsted Count and sliver. This is an optional feature. The following details are valid, only if this feature is available in the balance. Enable this option in SETUP functions. (See Setup functions for more details). Length of the sample for the above counts are as follows.

Cotton	Cotton count - 120 yd.
dEnIEr	Denier count - 90 m.
tEX	Tex count - 10 m
JorStEd	Worsted count - 10 yd.
	Sliver - 10 yd.

Use △ and ▽ keys to change the unit ,

For eg.

Balance will display cotton count directly.
It is also possible to analyse the samples for consistency using statistical method.

For using statistical method , enable the StAt and ACCU options in SEt UP functions. Also set the PRINT option to StorE

For beginning the tests, clear the memory by the following.

Press ENTER key, the balance will display ----------

Press △ key immediately, balance will display StorE

Press →T key, balance will display CLEAr

Press ENTER key to clear the memory.

Store counts of all the samples to be tested one by one as per the following.
Remove all the weights from the pan and make the weight zero by

pressing →T key.

Keep the sample on the pan and wait till the count becomes stable.

Press ENTER key, the balance will display ----------

Press △ key immediately, balance will display StorE

Press ENTER key to store the count in memory.

Store all the counts in memory with above procedure. For viewing sample data and other statistical details, do the following.

Press ENTER key, the balance will display ----------

Press △ key immediately, balance will display StorE

Press ▽ key, balance will display no XX (displays the sampleno.)
followed by XXX.XX (displays the count)

Press △ and ▽ keys to see all sample data. After the balance displays the last data, it will display Total count and total number of samples. Then it displays

AU xxx.xx (Average count)

Press ▽ key, balance displays nX xxx.xx (Maximum count)

Press ▽ key, balance displays nn xxx.xx (Minimum count)

Press ▽ key, balance displays Sd xxx.xx (Standard deviation)

Press ▽ key, balance displays CU xxx.xx (Coefficient of Variation)

While viewing the above, Press PRINT key to print all the results on a serial printer.
Sample printout will appear as below.

Sr.no.	COUNT
1.	12.56 CC
2.	12.50 CC
3.	13.40 CC
4.	12.90 CC
5.	12.03 CC
6.	12.30 CC
7.	12.56 CC
8.	13.00 CC
9.	11.95 CC
10.	12.50 CC

TOTAL : 125.70
AVERAGE : 12.57
MAXIMUM : 11.95
MINIMUM : 13.40
STD. DEV. : 0.439
C.V. : 3.50%

BALANCE OPERATIONS & FUNCTIONS

14) GSM APPLICATION

CAH-CBB series balances can be used to determine GSM(Grams per Sq.meter). The following description is valid only if this feature is available in the balance and enabled. The balance displays directly the GSM value of fabric or paper of specified area. Enable GSM feature in the SETUP functions. 5 pre-programmed area (rectangular or round) are available in the balance. **Standard areas are:**

1. 5 X 5 cm
2. 10 X 10 cm
3. 20 X 20 cm
4. 25 X 20 cm
5. 25 X 25 cm

Select GSM mode:

Use △ and ▽ keys to change till the balance displays -gS-

Balance now enters GSM mode.

For changing the area, Press ENTER key, the balance displays --------

Press SET UP key immediately, balance displays Ar XX.XX

Repeat the procedure till desired area is selected.

15) PERCENTAGE WEIGHING

Selection of percentage weighing mode.

Press △ or ▽ keys till the balance displays PErc

PERCENTAGE weighing function is used to determine % weight gain/loss. Any weight within the capacity can be set to be 100%. The balance displays the weight gain/loss in % of the original weight. This function must be enabled using SETUP function. This feature is very useful in determining % loss/gain in moisture in food/tea/pharmaceutical industries.

For eg. Keep a 25g weight on the pan.

Press F key, the balance calibrates 25g as 100% and

displays 100.0

After this any change in weight on the pan will be indicated as % of original weight(25g), till the balance is calibrated for100% with another weight.

BALANCE OPERATIONS & FUNCTIONS

ENTERING SETUP MODE

Switch Off the balance.

Switch on the machine keeping the SET UP key pressed. Do not release this key until the balance displays SEt UP

And subsequently displays FACt

For changing between the menu mentioned above

Press SET UP, or △ or ▽ keys

For selecting the menu, Press ENTER key.

For changing the parameters, Press △ or ▽ key and Press to save.

Press ⇔T to quit setup mode.

***** PLEASE NOTE THAT SOME FUNCTIONS IN THE BALANCE MAY NOT BE LEGAL IN SOME PLACES. THESE FUNCTIONS SHOULD NOT BE MADE AVAILABLE TO THE END USER. THESE UNITS CAN BE SWITCHED OFF BY PROGRAMMING. *****

SETUP FUNCTIONS

SETUP functions control the basic operation of the balance. There are 29 parameters, which can be set by the user to suit the requirements. The following are the parameters.

MENU NAME	FUNCTION	OPTIONS	DESCRIPTION
1. FACt	Factory setting		To select factory set parameters.
2. PArtS	Piece counting modes	PArt-1	To select single piece counting memory.
		PArt-10	To select 10 piece counting memory.
		PArt-25	To select 25 piece counting memory
		no PArt	To disable piece counting.
3. bAUd	Baud rate setting	bd2400	To select 2400 baud rate
		bd4800	To select 4800 baud rate
4. Print	Print modes set.	SingLE	Send stable weight through serial port when PRINT key is pressed.
		Stb	Send weight through serial port Every time balance reading becomes stable.
		ALL	Send weight continuously.
		StorE	Send stored weights through serial port.
5. AUto-0	Auto zero setting (Ability of the balance to remain at zero, when there is no weight on the pan.	A-0	Autozero disabled.
		A-1	Autozero to half accuracy of balance.
		A-2	Autozero to full accuracy of balance.
		A-3	Autozero to twice the accuracy of balance.
6. ACCU	Weight storage mode	Ac-no	Weight storage disabled
		Ac-yES	Weight storage enabled
7. FILL	Fill mode option	FL-oFF	Fill mode disabled
		FL-on	Fill mode enabled

16) AUTOCALIBRATION WITH STANDARD WEIGHTS

CAH-CBB Series balances can be calibrated for weight with standard mass. Balances can be calibrated with 100g, 200g, 500g and 1000g weights depending on the models.

Models upto 1kg can be calibrated with 100g,200g,500g, 1000g weights
Models upto 600g can be calibrated with 100g,200g,500g weights
Models upto 350g can be calibrated with 100g,200g weights
Models upto 300g can be calibrated with 100g,200g weights
Models upto 220g can be calibrated with 100g,200g weights
Models upto 125g can be calibrated with 50g, 100g weight.

Enable calibration function in SETUP mode before attempting to calibrate the balance.(Refer SETUP functions for more details). This function should not be made available to the end user, if there is any restriction in usage of this function.

CALIBRATING THE BALANCE

Use only good calibrated weights for performing auto calibration.
Press key to make the weight read zero.

Keep the standard mass on the pan and wait for it to become stable.

Press key.

Balance will display ----------
And will subsequently display CAL donE

For setting balance calibration back to default factory setting,

Press key and immediately press key.

Balance will display -rEFrESH-
Balance weight calibration will now be restored to factory settings.

BALANCE OPERATIONS & FUNCTIONS

17) WEIGHT SLIP PRINTING

In this mode, the balance prints weight with date, time and details of the articles like gold/silver/diamond.

To use this mode, set PRINT option to PrF-6 in SETUP mode.

To select the item, Press key followed immediately by key,

the balance will display -gold-

to select item gold or press key followed immediately by key,

the balance will display -SIL-

to select item Silver or press key followed immediately by key,

the balance will display -dIA-
to select diamond.

Set Date and time as given earlier in the manual (Refer to section on Changing date, time, Sr.no.)

Press key to print the slip. A sample printout will appear as below.

XYZ Co.
ADDRESS
ADDRESS

Sr.No : 23
Date : 11.09.2006
Item : GOLD
Weight : 11.250g

Charges : Rs. _____/-

Thank You. Visit again

SETUP FUNCTIONS

8.	-CAL-	Auto calibration	CAL-oFF	Autocalibration disabled
			CAL-on	Autocalibration enabled
9.	Pound	Pound weighing	Pnd-oFF	Pound weighing disabled
			Pnd-on	Pound weighing enabled
10.	CArAt	Carat weighing	Crt-oFF	Carat weighing disabled
			Crt-on	Carat weighing enabled
11.	tolA	tola weighing	tol-oFF	Tola weighing disabled
			tol-on	Tola weighing enabled
12.	GrAin	Grain weighing	GrAin-oFF	Grain mode disabled
			GrAin-on	Grain mode enabled
13.	PErC	% weighing	PErC-oFF	% mode disabled
			PErC-on	% mode enabled
14.	GSn	GSM	GSn-oFF	GSM mode disabled
			GSn-on	GSM mode enabled
15.	PSn	Power saving mode	PSn-oFF	Power saving mode disabled
			PSn-on	Power saving mode enabled
16.	P-HoLd	Peak hold mode	PHF-oFF	Peak hold mode disabled
			PHF-on	Peak hold mode enabled

SETUP FUNCTIONS

17.	3d-SEt	Third decimal mode	P3d -oFF	Third decimal mode disabled
			P3d -on	Third decimal mode enabled
18.	t,tLE	Title printing	tLE -oFF	Title printing disabled
			tLE -on	Title printing enabled
19.	P-tyPE	Select printing mode	P-tyPE 1	Horizontal Printing mode
			P-tyPE 2	Vertical Printing mode
20.	Pr,Fmt	Select print formats	Pr,F 1	Only weight
			Pr,F 2	Sr.no. Weight
			Pr,F 3	Sr.no., Date, Weight
			Pr,F 4	Sr.no., Time, Weight
			Pr,F 5	Sr.no., Date, Time, Weight
			Pr,F 6	Weight slip Printing
21.	SEt-Pt	Select set point mode	SEt-1	Single set point
			SEt-2	2 set points.
22.	F-tyPE	Select set point type	F-tyPE 1	+ve Logic outputs for fill application
			F-tyPE 2	-ve Logic outputs for fill application
23.	dEnS	Density mode	dEnS-oFF	Density mode off
			dEnS-on	Density mode on.
24.	Count	Textile count mode.	Count-oFF	Textile Count mode off
			Count-on	Textile Count mode on.
25.	StAt	Statistical report mode	StAt-oFF	Statistical report off
			StAt-on	Statistical report on.

SETUP FUNCTIONS

Factory default parameters.

PArtS	PArt-1	To select single piece counting memory
bAUd	bd4800	To select 4800 baud rate
Print	SinglE	Send stable weight through serial port
AUto-0	A-1	Autozero to half accuracy of balance
ACCU	Ac-no	Weight storage disabled
FILL	FL-oFF	Fill mode disabled
CAL	CAL-oFF	Autocalibration disabled
Pound	Pnd-oFF	Pound weighing disabled
CArAt	Crt-oFF	Carat weighing disabled
toLA	toL-oFF	Tola weighing disabled
grAin	GrAin-oFF	Grain mode disabled
%	PErC-oFF	% mode disabled
GSM	GSM-oFF	GSM disabled
PSM	PSM-oFF	Power saving mode disabled
P-HoLd	PHF-oFF	Peak hold mode disabled
3d-SEt	P3d -oFF	Third decimal mode disabled
titLE	tLE -oFF	Title printing disabled
P-tYPE	P-tYPE1	Horizontal Printing mode
PrFmt	PrF1	Only weight
SEt UP	SEt-1	Single set point
F-tYPE	F-tYPE1	+ve Logic outputs for fill application
Count	Count-oFF	Textile counts off
dEntYPE	dEnS-oFF	Density type 1
StAt	StAt-oFF	Statistical reports off-