QAQC LAB

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Instruction Manual

COMPUTERIZED

SEED COUNTER 673 S6709

Manufactured in an ISO 9001 Facility

UPON RECEIPT OF THE SEED COUNTER, PLEASE CHECK ALL PARTS CAREFULLY. IF YOU FIND ANY DAMAGED / BROKEN PARTS, IMMEDIATELY INFORM INSURANCE COMPANY.

Content

1. INTRODUCTION

1.1 General:

This machine has been designed for quick counting of seeds. The Counter consists of an opto-electronics circuit for seed sensing, keypad, LCD Display, microcomputer for controlling its operations. The machine has an added advantage of removable Pan, seed setting of lots and count setting and entering names of commodities.

The instrument has a facility to interface it with Printer and Computer for transferring the data.

1.2 Principle of operation:

The machine works on the principle of electromagnetic vibrations and opto-electronics to feed the seed into the counting chamber and interrupting the optical beam to count the seeds.

1.3 Construction:

The Seed Counter is designed for tabletop use. The machine consists of two electromagnets. These electromagnets coupled with spring action of the spring strips cause the seed on the spiral Pan to move in clockwise direction. The speed of vibrations can be controlled automatically by the **UP/DOWN** keys provided at the keyboard. The Pan consists of a screw arrangement for adjusting the feed of seeds in a single row for counting. The aligned seeds are dropped into the chute. An opto-electronic sensor detects the seed. The seed are collected in a storage box.

The seed counter vibrations have soft start and soft stop feature for accurate counting. The soft start function is automatic and soft stop function is programmable by the user. The various parts of seed counter are illustrated in next page.

1.4 Notice:

The Seed counter is exclusively designed for counting of seeds. Do not count any other foreign parts like plastic & liquid drops that can destroy the Pan of seed counter. Unauthorized modifications and copy of this product are not allowed.

UNPACKING OF BOX

	1. Put the box as shown in the figure 1 (arrow mark goes up).
	2. Open the box by means of cutter (figure 2).
	3. You will find all accessories as shown in figure 3

Please read this manual carefully before starting the operation. Any damage or risk caused by improper use is the responsibility of the operator. Detail item of figure (i)

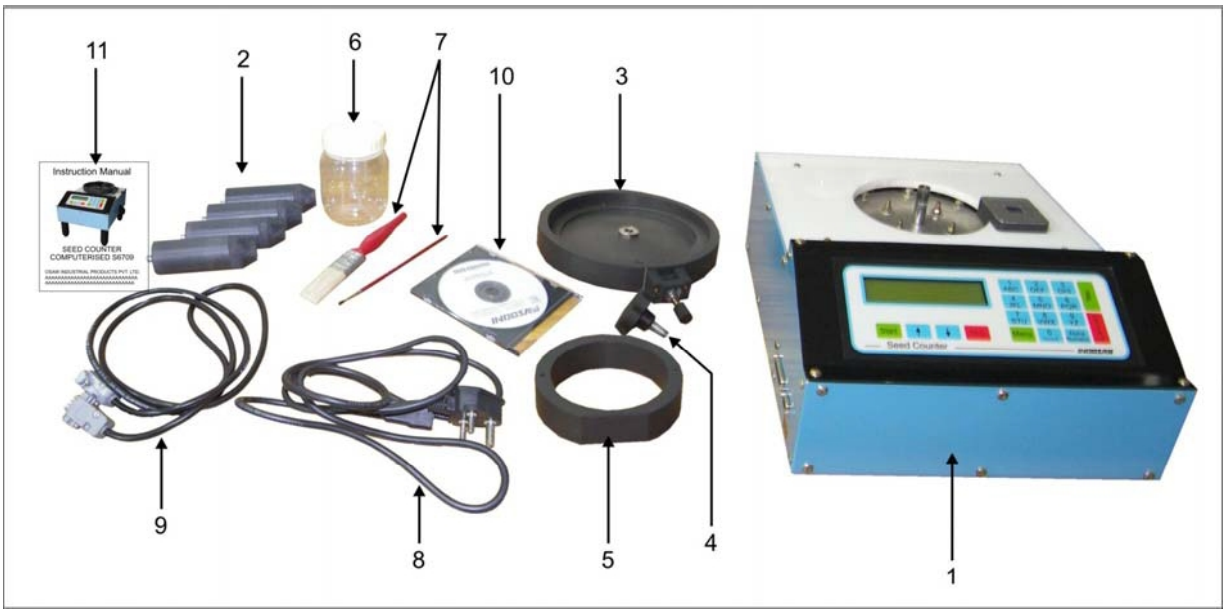
1. Clamping Knob
2. Spiral PAN
3. Rubber Feet
4. Printer Port
5. Serial Port (COM Port) for PC interface
6. Sliding slit adjustment knob
7. Sensor assembly
8. Front Panel
9. Socket for mains input
10. Red ON/OFF Switch

Fig(i) Front view

Fig(ii) Rear View

1.5 Check List:

While opening the box please check the following items.



1. Seed Counter
2. Supporting Legs
3. Spiral Pan
4. Clamping Knob
5. Annular disk
6. Seed collecting bin
7. Brushes
8. Power Cord
9. Serial Cable for Data transfer to PC
10. Software (RS-232) CD
11. Operating Instructions manual

2. SAFETY & PRECAUTIONS:

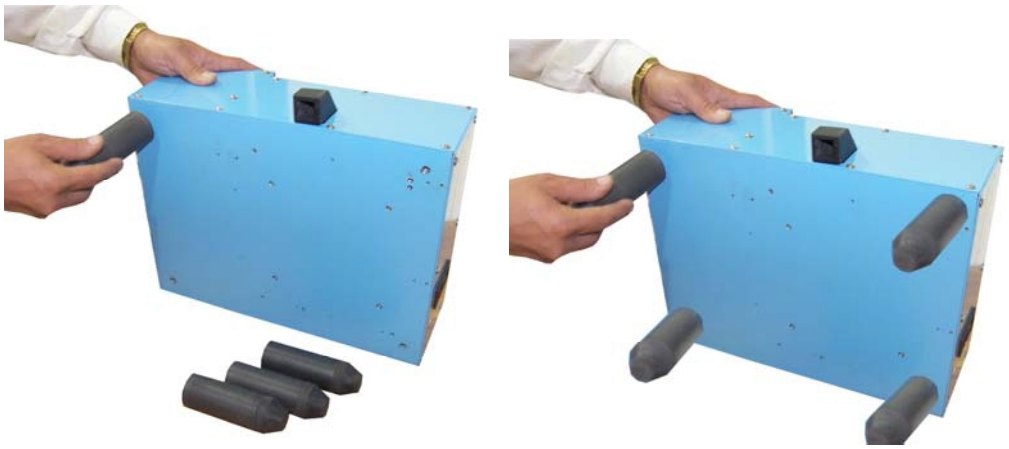
1. Use your seed counter on good AC supply of 220V/50Hz with proper earthing.
2. Always keep your machine protected from water and dust.
3. Sensor and Pan must be clean before starting the counting with the brush provided with the instrument.
4. Seeds to be counted should be cleaned before placing into the Pan.
5. Always adjust the Spiral Pan according to setting mark's provided on the sensor part and on the Pan.

3. SPECIFICATIONS OF SEED COUNTER

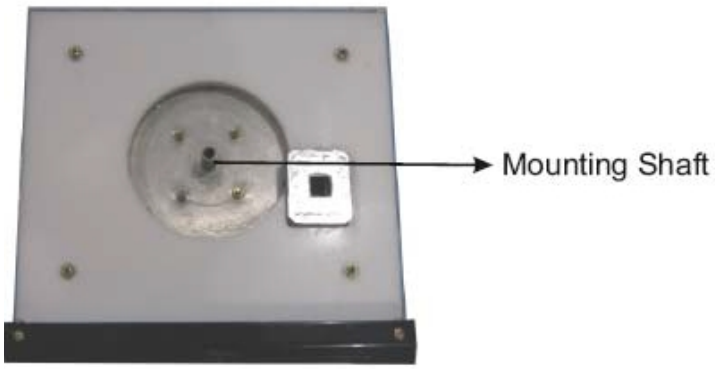
Size	:	39 X 30 X 29 Cm^3
Weight	:	18 Kg (Approx.)
Count	:	0-999999
Seed Size	:	Between 0.5mm & 15mm
Display	:	16X2 character alphanumeric LCD
Input Supply	:	220V AC, 50Hz

4. MECHANICAL ATTACHMENTS & ADJUSTMENTS

1. Attach all the four legs provided separately with the instrument. After that, place the instrument horizontally.

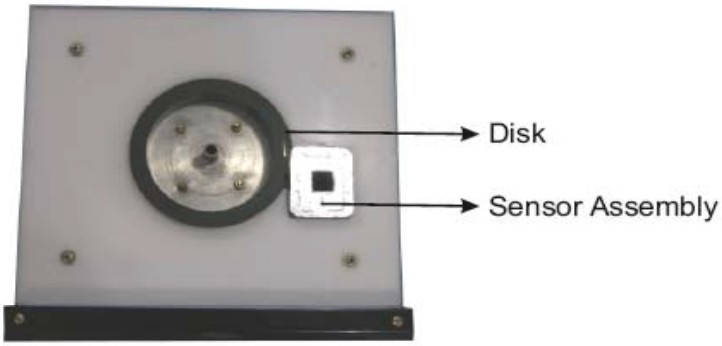


Fig(iii) Attachment of Legs



Fig(iv)

2. Place the disk on the vibrator assembly plate in such a way that cut is aligned towards the sensor assembly.

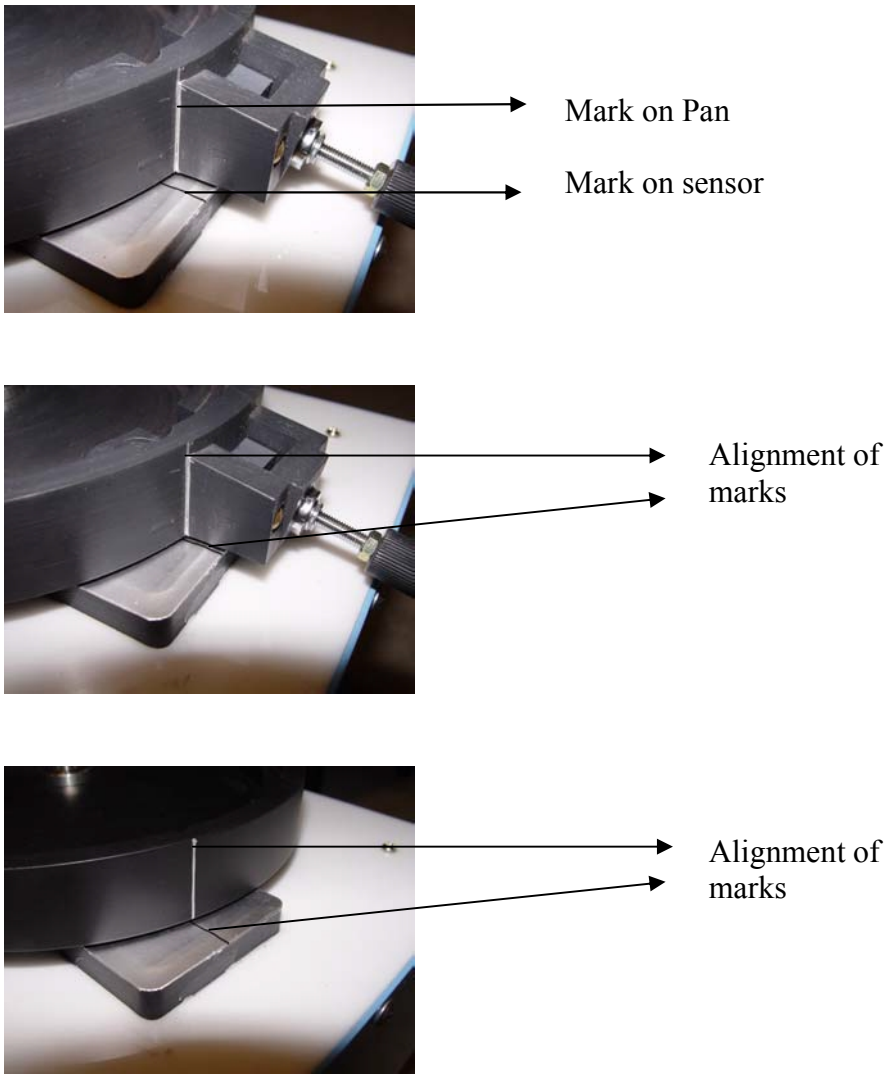


Fig(v)

3. Place the Pan centrally on the seed counter Mounting Shaft on the placed disk.

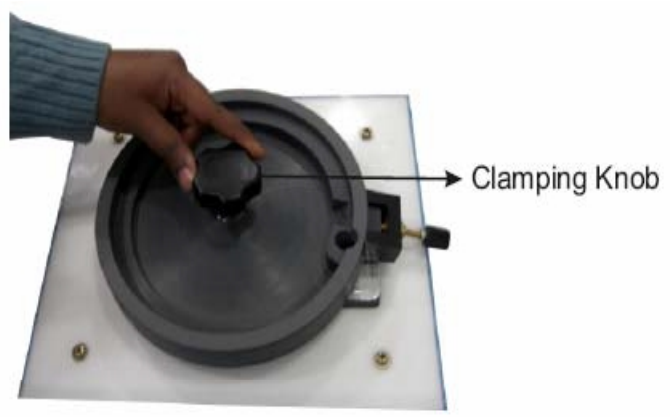
Fig(vi) Mounting a Pan

4. Align the Pan with the sensor assembly so that the mark provided on the Pan coincides at 90 degree with the mark on the sensor assembly.



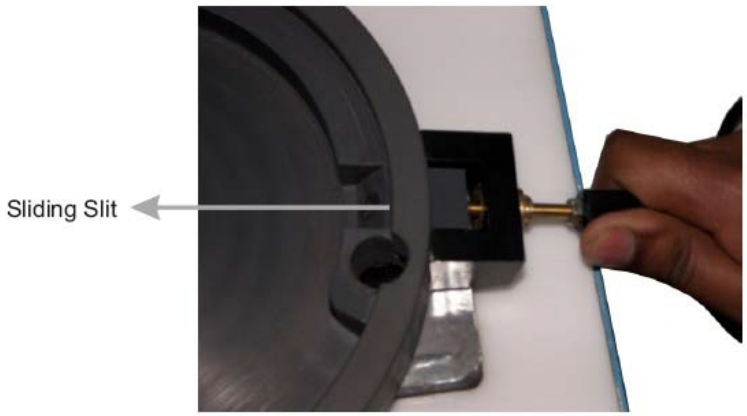
Fig(vii) Adjustment of Pan

5. Tight the Clamping Knob so that Pan will fix on seed counter mounting shaft.



Fig(viii)

6. Adjust the sliding slit according to the size of seed so that only a single row of seeds will fall in to the sensor assembly.



Fig(ix)

5. FUNCTION/OPERATION

5.1 Switching on:

Insert the power cord at the back side of seed counter.

Fig (xi)

Switch on the Red switch on the back side of Seed Counter. In ON condition, the switch is illuminated.

Fig(xii)

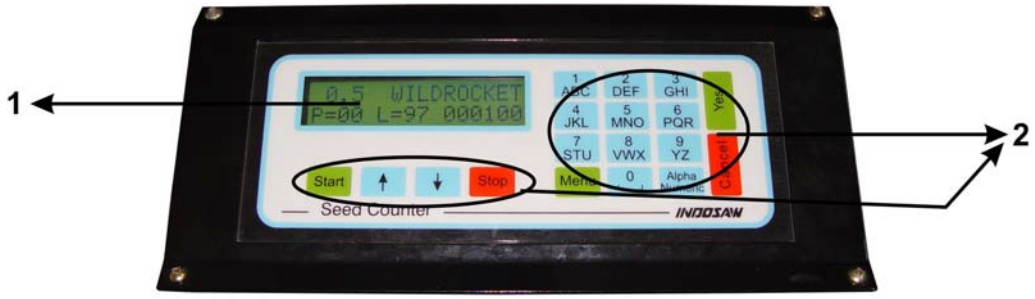
After that key pressed, the green LED gets illuminated and two messages "**--- INDOSAW ---**" in the first line and **"SEED COUNTER 3.0"** in the second appears on the LCD-Display for 2 seconds consecutively and then the status indication **"0.5 Wild**

Rocket P=50 L=99 000100" for seed size, commodity name, power levels, lot number and count appears on the display.

5.2 Display

Front Panel is illustrated below.

1. LCD Display (16X2 Character)
2. Keypad Section



Fig(xiii)

The seed counter contains double line 16 digits LCD-Display. In normal condition, it displays the setting for particular commodity seed.

5.3 Keypad:

The seed counter has a keyboard of 18 keys with multiple functions which are explained as follows.

Menu

This key is used as "Menu" key in programming mode for entering in the setting menu so that commodity name, lot number, number of seeds to be counted, stop count and speed slow setting can be entered.

Key numbers 0-9

In numeric mode key numbers 0, 1, 2, 3, 4, 5, 6, 7, 8 & 9 are used to enter numbers. In alphanumeric mode keys are used to enter character as follows:

0	space
1	ABC
2	DEF
3	GHI
4	JKL
5	MNO
6	PQR
7	STU
8	VWX
9	YZ

Alphanumeric

This key is used to select numeric & alphanumeric entry modes while entering seed code (Commodity name).

Yes

This key is used to enter the various entries. It is used to accept the input as yes key. By pressing YES key, you can move in next option.

Cancel

This is used to come out from seed code menu & configure menu during setting. This key is also used as back key incase of wrong entry in commodity name and count.

Start

This key is used to start the counting process.

Stop

This key is used to abort the counting process.

Up

This key is used to set upward direction for counting e.g. from 0 to 100.

Down

This key is used to set downward direction for counting e.g. from 100 to 0.

5.4 Program setting of the seed counter:

The program setting of seed counter is explained in the following section with example and illustrated in the program setting flow chart.

i. Count Setting

a) Seed code: 99 (The setting will store at memory location 99)
b) Commodity name: PADDY (Paddy has been used for counting)
c) No. of lots: 99 (Seed counter can count 99 number of lot in single process)
d) Count: 000100 (Seed counter can count upto 999999 number of seeds)
   Stop: 000099 (Vibrator will stop on count 099)
   Slow: 000090 (Vibrator get slow on count 090)
e) Fast Power:50 (Vibrator will move with a speed of 50 up to slow count)
   Slow Power:45 (Vibrator will move slowly at this speed after slow count for the accurate counting)
f) Direction: **UP/DOWN** (for counting from 0 to 100 and from 100 to 0)

ii. Configuration

g) Printer and PC setting
   Baud Rate:
   1200 (Data transfer to computer is set at 1200 bd)
   2400
   4800
   9600

h) Auto Print (X- means automatic data transfer to printer is selected)
i) Auto PC (X- means automatic data transfer to computer is selected)

a) SEED CODE:

We can store settings for different commodity in the memory of seed counter. There are 99 different memory locations at which we can store commodity seed settings. Seed code is selected from 01-99 to store settings by pressing 0-9 keys.

b) COMMODITY NAME ENTRY:

By pressing the keys, 0 to 9 we can enter the name of commodity. In numeric mode, they act as a number and in other mode; they act as an alphabetic character.

In case of wrong character entry, press **Cancel**, then cursor moves towards left so that you can replace the wrong character by pressing appropriate keys. In case you want to enter numeric value, then press alphanumeric key and a star (*) arrives in front of name at the display. To switch back to numeral entry, press again alphanumeric key and star (*) disappears from the display.

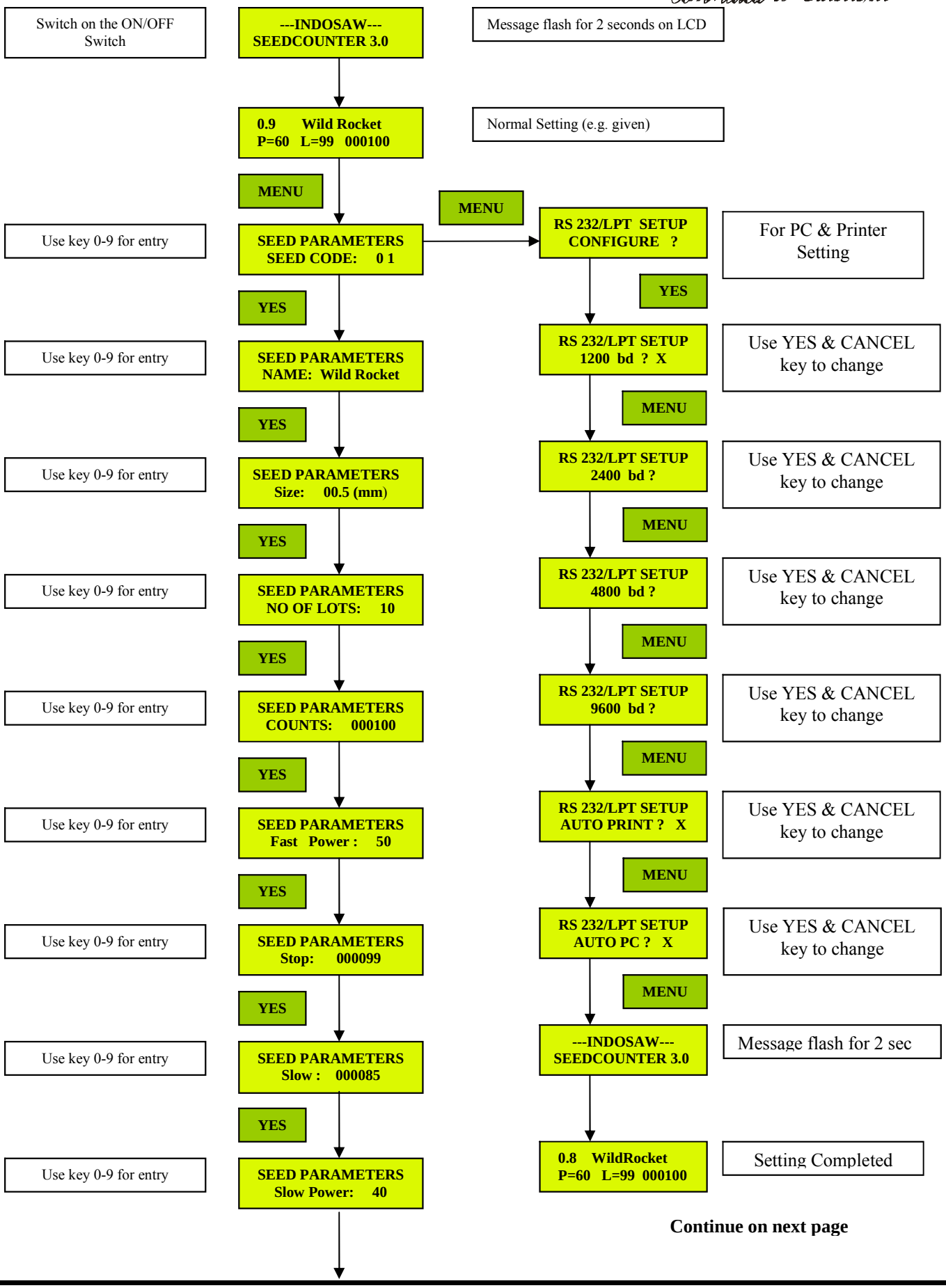
c) LOT SETTING:

Lot setting is used to enter the number of times you want to count. In case of wrong number entry, press **Cancel**, then cursor moves towards left so that you can replace the wrong number by pressing right keys

d) COUNT, STOP and SLOW SETTING:

Enter the number of seeds you wish to count. Then enter stop count less than number of seeds to be counted. Vibrator will stop at this count. Then enter slow count less than stop count for accurate counting. Vibrator will get slow at this count.

In case of wrong number entry, press **Cancel**, then cursor moves towards left so that you can replace the wrong number by pressing right keys.



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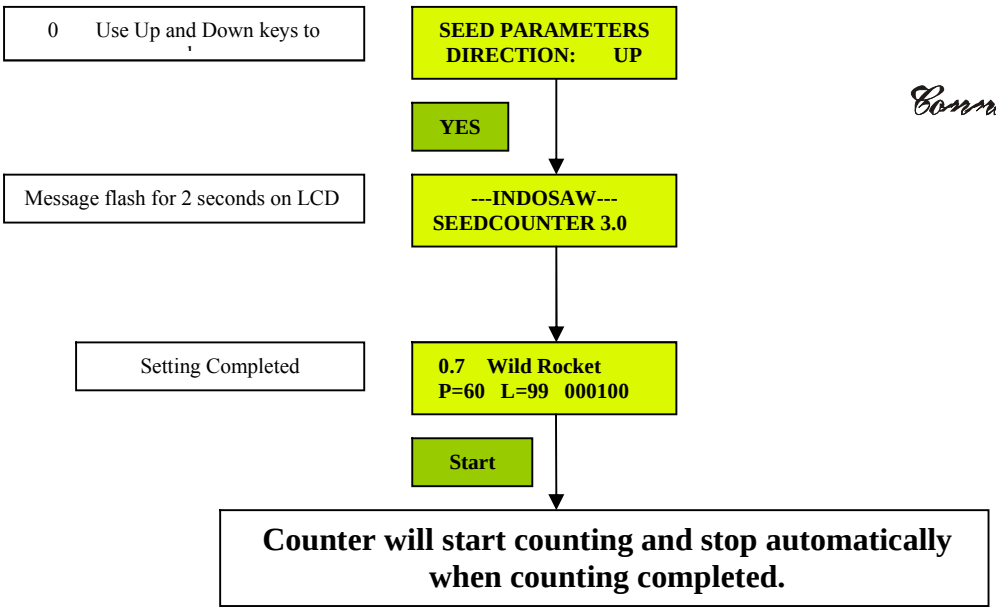


Fig(xiv) Program Setting flow chart

e) POWER LEVEL:

There is two power level setting i.e. fast and slow. At the fast power level, the vibrator will move at fast speed so that the seeds can take maximum momentum so that they can reach to desired position and in the case of lower power level, we give the less momentum so that they will drop one by one. It gives higher accuracy.

f) DIRECTION:

Use up & down arrow keys to select up and down direction.

↑: In this mode seed counter counts upwards (e.g. 0 to 100)

↓: In this mode seed counter counts downwards (e.g. 100 to 0)

g) PRINTER & PC SETTING:

Data can transfer from seed counter to computer and printer by using configuration setting. Enter configuration mode by MENU key two times. Then choose baud rate for data transfer. There are four settings of Baud Rate.

1200
2400
4800
9600

h) Auto Print:

This option is used to transfer data to printer automatically when seed counter counts the seeds.

i) Auto PC:

This option is used to transfer data to computer automatically when seed counter counts the seeds. Follow the steps to transfer the data in to PC.

- Install the software (RS 232) given in the CD. (Instruction for installing the software is given in the CD)
- Connect the serial cable (supplied with the instruments) with the seed counter's 9 pin connector.
- Open the software window by clicking (Start ---All programs---RS_232---RS_232).
- Start seed counter then after counting reading will automatically display on the screen.

5.6 Normal Operation

The programmed settings for commodity seeds are retained in memory even after the power of the seed counter is switched off. Upon power on the normal operation of the seed counter is initialized to the latest selected seed commodity settings. The counting operation is performed when ever the user presses the "start or Yes" key and is automatically stopped whenever the desired seed counts are reached. The user can abort the counting process by pressing the "stop or cancel" key.

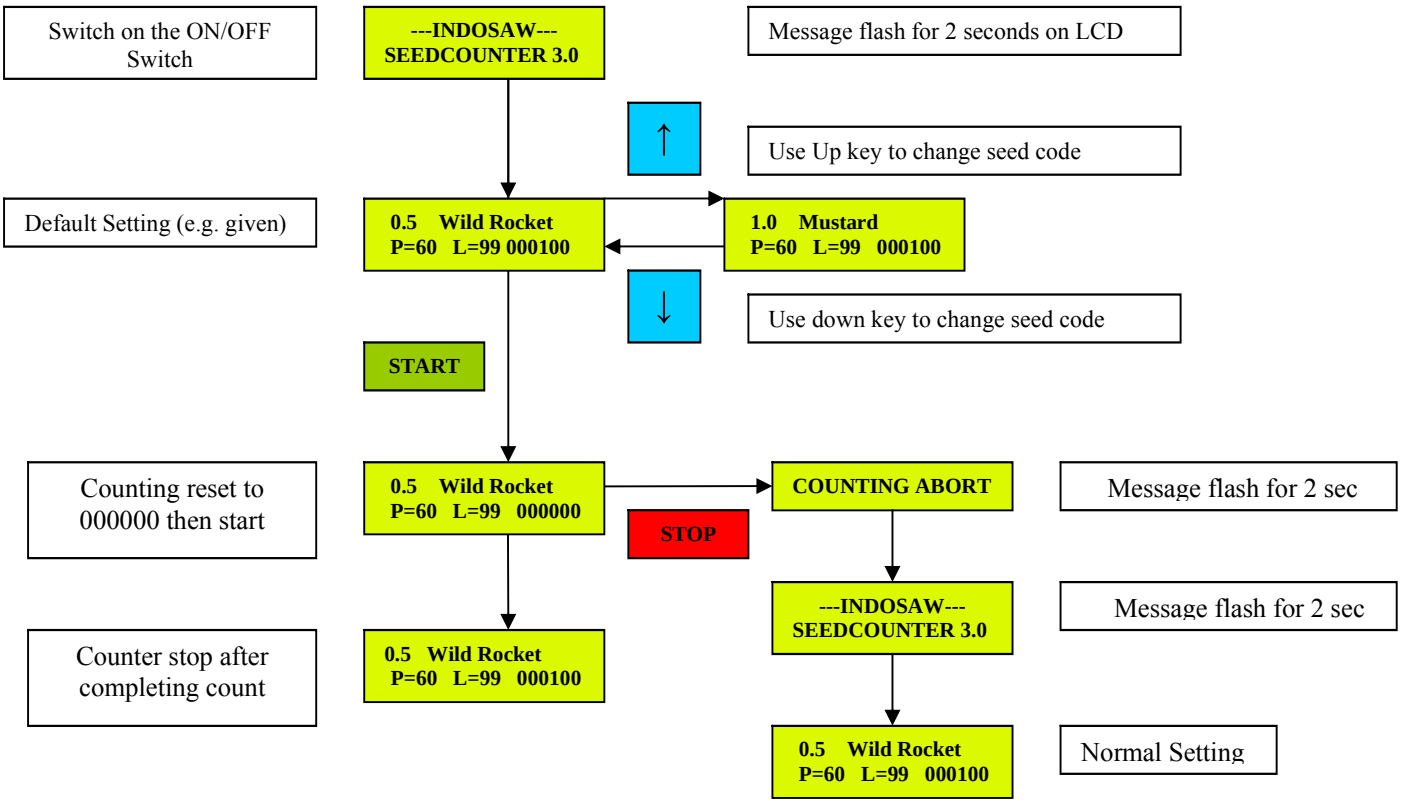
In normal operation mode, the user can change the commodity seed vibration settings anytime with the help of up (↑) and down (↓) arrow keys. The latest selected settings are retained for further count operations. The flow chart for normal operation mode is illustrated below.

5.7 Cancel/Stop Counting:

This feature is used to cancel/stop counting in case of wrong counting or any error in process. If you wish to abort or stop counting, then press **Stop or Cancel** key. The vibrator get immediately stop and so counter stop counting. Then a message "process Aborted" will be displayed on the display.

5.8 Switching Off:

Switch off the instruments by means of On/Off switch provided at the back side. The LCD display is extinguished.



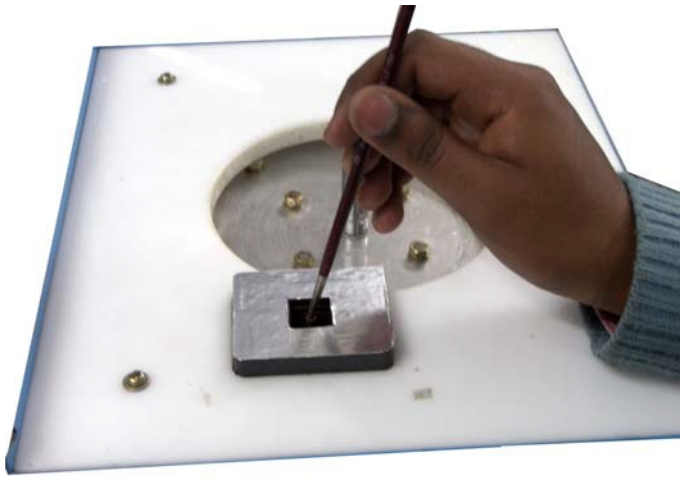
Fig(xv) Normal Operation flow chart

6. CLEANING AND MAINTENANCE

In case of dusty and dressed seeds, it is important that the feed container, collecting container and sensor must be cleaned, otherwise the result of the next counting is falsified. After switching off, the sensor of counter must be cleaned with a cloth from time to time. Do not use acids or aggressive cleaning agents. We strongly recommend cleaning the complete instruments after longer periods of standstill. This guarantees a proper function of the instrument.

6.1 Cleaning of the sensor

Depending on the frequency of use or use of dusty seeds, the sensor and bulb might get dirty so that it must be cleaned from time to time. Use soft brush to clean the sensor.



Fig(xvi) Cleaning of the sensor

6.2 Replacement of the Fuse

Do not replace the fuse, until the red indicator isn't glow after switched off the instruments.