dispenserRX

IMPORTANT

This manual is the only official guide to this machine. All verbal advice or instructions should be disregarded except those from C.E.King Limited or its authorised representatives.

Any modifications to this equipment not carried out by personnel authorised by C.E.King Limited may invalidate the existing CE Certification. In these circumstances, the user is responsible for arranging re-certification of the machine. Failure to do so may result in the machine no longer complying with the relevant EC Directives and consequently be no longer legally usable.

Due to our policy of continuous improvement we reserve the right to modify the specification of the machine at any time.

EC DECLARATION OF CONFORMITY

Compatibility of equipment design & manufacturing standards to current acceptable European community CE marking standards.

C.E.King Limited hereby declare that the following machine complies with the essential health and safety requirements of the Machinery Directive **2006/42/EC**, (Formally 98/37/EC replacing 89/392/EEC) and its amendments (93/68/EEC, 93/44/EEC and 91/386/EEC), the Low Voltage Directive **2006/95/EC** (Formally 73/23/EEC) and its amendment (93/68/EEC), the requirements of the Electromagnetic Compatibility Directive **2004/108/EC** (Formally 89/336/EEC) and its amendments (93/68/EEC and 92/31/EC)

Machine Model: Dispenser RX

Description: Electronic Tabletop Tablet and Capsule Counting Machine

Serial Number: 5780/14

The following transposed harmonised European standards have been used:

BS EN ISO 12100:2010 - Safety of Machinery - Safety of machinery. General principles for design. Risk assessment and risk reduction.
BS EN ISO 13857:2008 - Safety of machinery. Safety distances to prevent hazard zones being reached by upper and lower limbs.
BS EN 349:1993+A1:2008 - Safety of Machinery - Minimum gaps to avoid crushing parts of the human body.
BS EN ISO 13850:2015 - Safety of Machinery - Emergency stop function. Principles of design.
BS EN 60204-1:2006+A1:2009 - Safety of Machinery - Electrical equipment of machines. General requirements.
BS EN 61000-6-4:2007+A1:2011 - EMC, Generic Standards. Emission standard for Industrial Environments
BS EN 61000-6-2:2005 - EMC, Generic Standard, Immunity for Industrial Environments

In addition, this machine has been designed and manufactured in accordance with British Standard **PD 5304:2014** - Guidance of Safe Use of Machinery

A technical construction file for this machinery is retained at the following address:

C.E.King Limited
3000 Hillswood Drive
Hillswood Business Park
Chertsey
Surrey
KT16 0RS
United Kingdom

Signature……..

Name……..

Position……

CE

GENERAL SAFETY INSTRUCTIONS

WARNING

Obey the following safety precautions when you install, operate or maintain the machine. Ensure that all operators are familiar with these safety requirements and are adequately supervised.

To avoid injury, all instructions given in this manual for adjustment or maintenance of the Dispenser Rx must be carried out with the mains power switched **OFF**.

Isolate the equipment from the electrical supply before removing covers.

The operator must wear safety glasses.

Safety covers are provided for your protection. Never attempt to operate the machine without all safety covers in position. Do not remove covers unless you are an authorised person. Always ensure there are no unauthorised personnel near the machine when maintenance or adjustments are being carried out. Service engineers must remove all tools and replace all covers before the machine is made available for production.

WARNING

This machine must be earthed. If in doubt consult a

Qualified Electrician.

INTRODUCTION

Scope of this manual

This manual provides installation, operation and maintenance instructions for the Dispenser Rx Tablet and Capsule Counting Machine. Read this manual before you install and operate the equipment.

This manual contains essential safety information, which supplements the safety features of the Dispenser Rx. Specific **WARNINGS** and **CAUTIONS** are highlighted in the text as defined below.

WARNING

Warnings are given when failure to observe the instruction could result in injury or death to persons.

CAUTION

Cautions are given where failure to observe the instructions could result in damage to the equipment, associated equipment.

CAUTION

This manual is the only official guide to this machine. All verbal advice or instructions should be disregarded except those from C.E.King Limited or its authorised representatives.

GENERAL DESCRIPTION

The 'Dispenser RX' is an electronic counting machine designed to accurately count and fill bottles with a wide range of tablets and capsules. It is designed for continuous or multi-batch counting operations. Tablets are fed from a bulk hopper into a vibratory feeder ring which aligns the tablets in a stream. Tablets then drop, one at a time through a count sensor which facilitates counting. Each time a tablet passes the count sensor the counter display is incremented until a pre-defined count is reached. A maximum accumulated count of 65500 is possible.

Standard Features

- Stainless steel constructed chassis.
- Quick release FDA approved contact material change parts.
- Touch screen interface.
- Easy to use menu driven control system.
- Batch or continuous counting feature.
- Adjustable product hopper with lid.

Optional Features

- Tablet specific Feed Ring for advanced handling.
- Control Clip for smooth tablet and capsule alignment.
- Custom outlet funnel designs to suit differing bottle neck sizes.

CAUTION

Any modifications to this equipment not carried out by personnel authorised by C.E.King Limited will invalidate the existing CE certification. In these circumstances the end user is responsible for arranging re-certification of the machine. Failure to do so may result in the machine no longer complying with the relevant EC directives and consequently being no longer legally usable.

TECHNICAL DATA

Machine Construction

The Dispenser Rx is designed and built in accordance with EU safety directives and is CE Marked. It is generally constructed from the following:

Construction Materials.

- AISI 316 Stainless Steel
- Aluminum Alloy (6082 - T651)
- Acetal Copolymer (POM-C) – Black
- Polycarbonate (PC)
- Perspex GS Acrylic Cast Sheet

General Performance

- Product media types - Coated or uncoated tablets, Soft or hard gelatin capsules and dragees
- Tablet Size - Sizes and shapes up to the maximum of diameter 16mm
- Capsule size - Sizes and shapes up to the maximum capsule size of 0E
- Tablet feed rate per minute (subject to handling properties and trials)

  5mm up to 1000 pieces per minute
  8mm up to 700 pieces per minute
  11mm up to 500 pieces per minute
  15mm up to 300 pieces per minute

Electrical

- Electrical requirements: 230v 50/60Hz 1 Phase or 110v 50/60Hz 1 Phase (See rating plate)
- Energy consumption: 0.3kw

Mechanical

- Dimensions: See Page 8
- Machine Weight: 30.1Kg

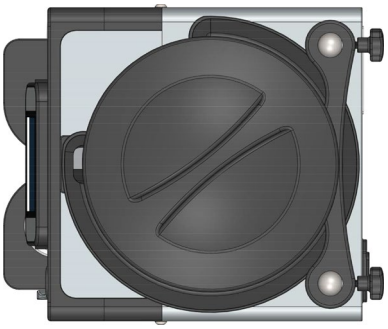
Packing Case Specification

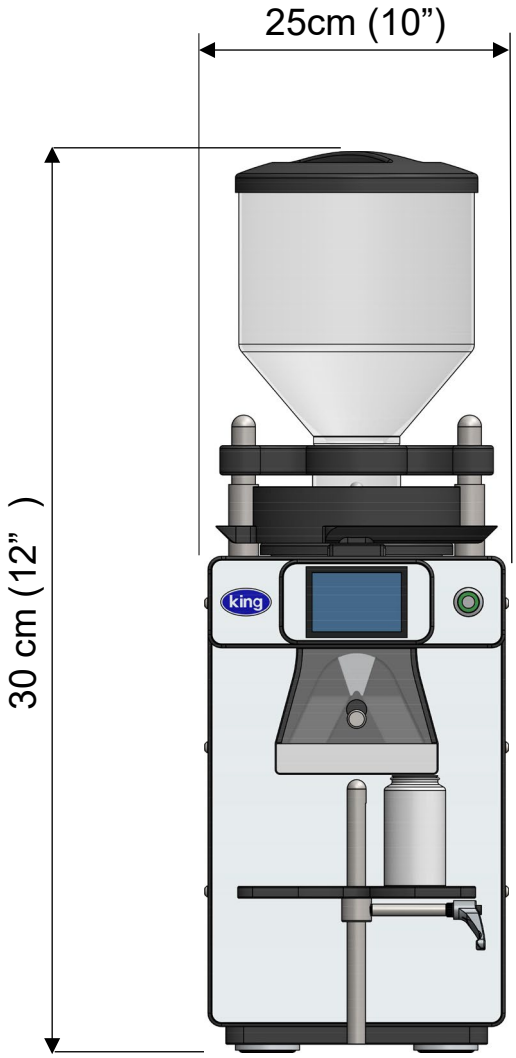
- Dimensions: 48cm x 48 cm x 90cm
- Shipping Weight: 44.2 Kg

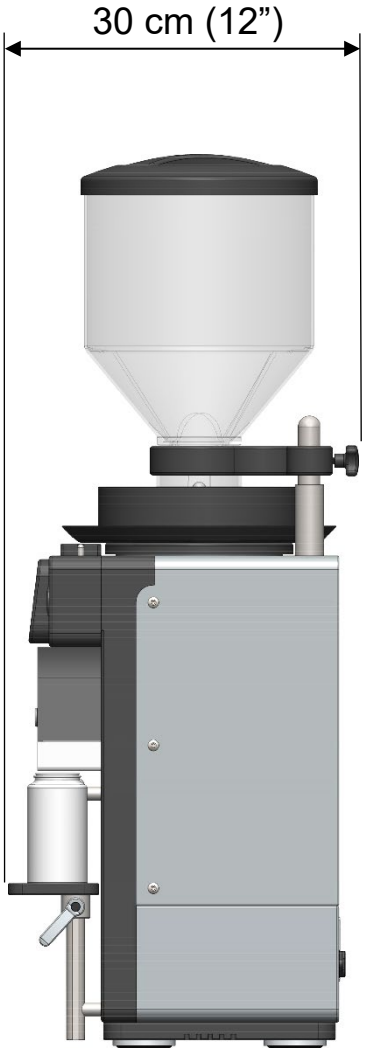
Software Version

- Version 1.0

MACHINE LAYOUT







INSTALLATION

Unpacking and inspection

Remove packaging materials and check for damage. If damaged notify your supplier and carrier in writing within three days; quote the machine type and serial number together with your order number and your suppliers invoice number.

Installing the equipment.

- Use suitable lifting equipment.
- Lift the machine to a minimum height required and only transport on ground level.
- Exercise care when fitting and removing parts and accessories.
- Locate the Dispenser Rx on a firm level surface and ensure that the surface on which the machine is to be installed is strong enough to support the machine's weight.

WARNING

To avoid serious injury always use suitable mechanical lifting equipment to safely lift and position the machine.

WARNING

This machine must be earthed. If in doubt consult a Qualified Electrician.

PARTS LIST

DC 6080001C - DISPENSER RX TABLET AND CAPSULE COUNTING MACHINE

PART NUMBER	COMPONENT DESCRIPTION	QUANTITY	COMMENT
DC 6081001C	UPPER BEZEL	1	
DC 6081002C	FRONT BEZEL	1	
DC 6081003C	LOWER CASE	1	
DC 6081004C	BASE PLATTEN	1	
DC 6081005C	FRONT BEZEL PLATE	1	
DC 6081006B	UPPER CASE	1	
DC 6081007C	TOP BEZEL PLATE	1	
DC 6081008B	TOP SKIN	1	
DC 6081009A	DIN RAIL	1	
DC 6081010A	VIBRATOR SHROUD	1	
DC 6081011B	TABLET GUIDE UPPER	1	
DC 6081012B	SCREEN BEZEL PLATE	1	
DC 6081013B	HOPPER MOUNT	2	
DC 6081014B	FEEDER RING	1	
DC 6081016B	PLATFORM RAIL	1	
DC 6081017A	FLAP	1	
DC 6081018E	FLAP HOUSING	1	
DC 6081020B	HOPPER MOUNT	1	
DC 6081021B	WINDOW	1	
DC 6081023A	CONNECTION SPACER	2	
DC 6081024B	TABLET GUIDE LOWER	1	
DC 6081025A	PLATFORM	1	
DC 6081026C	SLIDE SPACER PLATFORM	1	
DC 6081028B	SCREEN HOUSING	1	
DC 6081029B	FOOT PAD	4	
DC 6081030C	VIBRATOR MOUNTING PLATE	1	
DC 6081031A	VIBRATOR SUPPORT PILLAR	2	
DC 6081032A	SIDE BATTEN LH	1	
DC 6081033A	STRENGTHENING BAR	1	
DC 6081034B	HOPPER OUTLET SLEEVE	1	
DC 6081037B	FUNNEL Ø20MM	1	
DC 6081038A	HANDLE BAR	1	
DC 6081039A	MOUNTING PEG	4	
DC 6081040A	CLAMP BAR	1	
DC 6081041B	CAPTIVATION PIN	1	
DC 6081042B	CATCH PLATE	5	
DC 6081043C	FLAP SHAFT	1	
DC 6081044A	FLAP DRIVE PULLEY	1	
DC 6081045A	MECHANISM BLOCK	1	
DC 6081046B	CLAMP PLATE	1	
DC 6081047A	MOTOR DRIVE PULLEY	1	
DC 6081048A	SIDE BATTEN RH	1	

PARTS LIST (Continued)

DC 6080001C - DISPENSER RX TABLET AND CAPSULE COUNTING MACHINE

PART NUMBER	COMPONENT DESCRIPTION	QUANTITY	COMMENT
DC 6081054A	PCB MOUNT	2	
DC 6081055A	CLAMP STUD	1	
DC 6081056A	BASE SUPPORT BRACKET	1	
E 07098	VIBRATOR UNIT 230v (CLOCKWISE) 50HZ	1	
E 20104	HMI PANEL 3.5"	1	
E 20132	AMPLIFIER	1	
E 20133	SENSOR	1	
E 20134	REFLECTOR	1	
E 20135	MOTOR	1	
E 20136	VIBRATOR CONTROLLER	1	
E 20145	TRANSFORMER 2VA	1	
E 20157	CCB CONTROL BOARD	1	
E 20159	POWER SUPPLY	1	
E 20168	MAGNETIC CIRCUIT BREAKER	2	
E 20169	CIRCUIT BREAKER COVER	2	
E 20170	EMC FILTER INLET	1	
E 20172	LED INDICATOR	1	
M 01259	DEEP GROOVE BALL BEARING	1	
M 20002	SERIAL PLATE	1	
M 20061	EXTERNAL CIRCLIP	1	
M 20090	KING BADGE SMALL	1	
M 20097	HANDKNOB M6	2	
M 20099	HOPPER WITH LID	1	
M 20102	ADJUSTABLE HANDLE M6	3	
M 20106	MAGNET ADHESIVE	5	
M 20126	NYLON TIP SET SCREW	1	
M 20132	WING KNOB M8	1	
P 20086	O-RING (NITRILE)	4	
P 20106	O-RING	1	

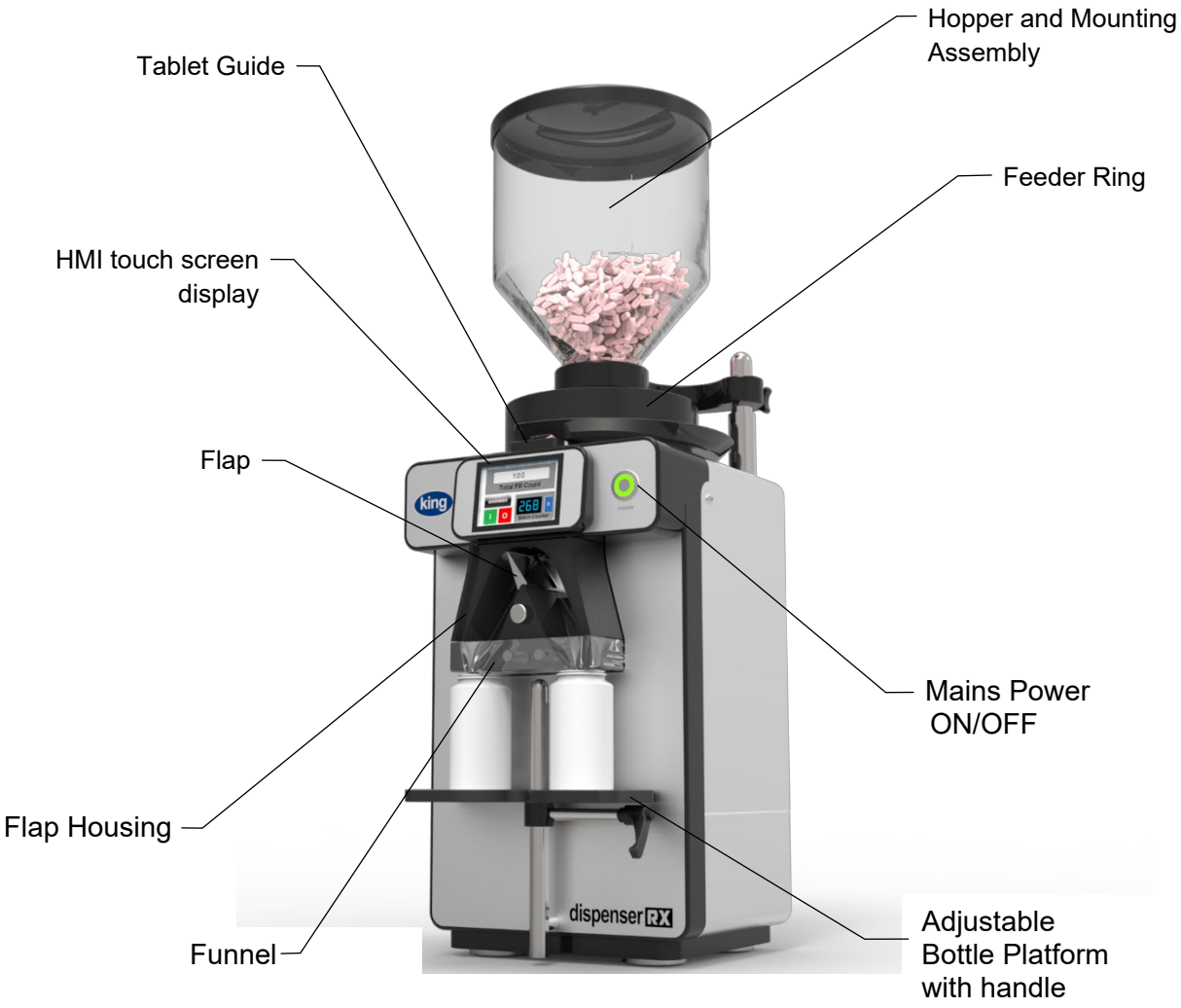
PARTS LIST (Continued)

DC 6080001C - DISPENSER RX TABLET AND CAPSULE COUNTING MACHINE

PART NUMBER	COMPONENT DESCRIPTION	QUANTITY	COMMENT
F 00001	M5 x 12 LONG SOCKET HEAD CAP SCREW		
F 00005	M6 x 16 LONG SOCKET HEAD CAP SCREW		
F 00008	M6 FLAT WASHER		
F 00010	M6 x 12 LONG SOCKET HEAD CAP SCREW		
F 00011	M6 x 16 LONG SOCKET HEAD C'SK SCREW		
F 00018	M6 FULL NUT		
F 00031	M5 FLAT WASHER		
F 00032	M5 x 50 LONG SOCKET HEAD CAP SCREW		
F 00033	M5 x 10 LONG SOCKET HEAD BUTTON SCREW		
F 00035	M5 x 16 LONG SOCKET HEAD CAP SCREW		
F 00038	M5 x 10 LONG SOCKET HEAD CAP SCREW		
F 00050	M5 x 25 LONG SOCKET HEAD CAP SCREW		
F 00051	M5 x 20 LONG SOCKET HEAD CAP SCREW		
F 00095	M3 x 6 LONG SOCKET HEAD CAP SCREW		
F 00115	M2.5 x 5 LONG SOCKET HEAD CAP SCREW		
F 00116	M2.5 x 10 LONG SOCKET HEAD CAP SCREW		
F 00117	M6 x 35 LONG SOCKET HEAD C'SK SCREW		
F 00118	M6 x 35 LONG HEXAGON HEAD SCREW		
F 00119	M3 x 10 LONG SOCKETHEAD C'SK SCREW		
F 00120	M3 x 12 LONG SOCKET HEAD CAP SCREW		
F 00121	M5 x 35 LONG SOCKET HEAD CAP SCREW		
F 00122	M3 x 30 LONG SOCKET HEAD CAP SCREW		

OPERATION

The Dispenser RX uses a touch screen to display and receive information and control the machines functions. Touching a control button, dialogue button or selection box on the screen with a fingertip or knuckle will result in its selection.



WARNING

Always switch off the mains power before disconnecting the machine from the electrical supply. If the machine is disconnected from the electrical supply whilst running data stored within the machine may be damaged.

OPERATION: General Machine Setup

The following setup procedure assumes that the machine has been fully assembled and is ready for operation without any product media.

- Plug the mains power cord into a convenient electricity supply (Note the machines operating voltage on the rating plate located at the rear of the machine).
- Ensure all change parts are clean and secured in their correct positions.
- Using two bottles manually adjust the height of the bottle platform using the handle located on the right underside to achieve a small gap between the underside of the funnel and the top of the bottle neck opening. Leaving a small gap of between 2mm and 3mm between the underside of the funnel and neck opening of the bottle facilitates easy placement and removal of bottles during operation.
- Unscrew the two hand knobs located at the rear of the hopper mounting and adjust the hopper to its lowest position so it touches the centre of the feed ring. Place a small amount of product into the hopper so it fills the outlet and proceed to adjust the hopper position accordingly so the hopper outlet allows tablets or capsules to be dispersed onto the feeder ring. Once set tighten the two hand knobs. It is very important to ensure the hopper provides a steady flow of tablets or capsules and does not become flooded with too much product.
- Switch on the mains supply and press the machines power button located at the front of the machine. Wait for the HMI to initiate and follow the on-screen prompt “Touch Screen to Continue”.
- At the home screen press anywhere within the count box area to display the basic settings screen. Adjust the count by pressing the target count settings box and set to a desired target count using the number keypad and pressing the green ‘ENTER’ button. Proceed to press the left arrow button to return to the home screen and then press anywhere within the batch box area to display the batch settings screen. For this instance, set the batch mode to CONTINUOUS and press the left arrow to return to the home screen.
- At the home screen press and hold the blue ‘RESET’ button located within the count box area for approximately 5 Seconds. Observe and listen for the flap to move from its current position to the opposing position.
- Load product into the Hopper ensuring tablets, capsules or gels are undamaged and have been graded to avoid broken pieces, excessive dust and are not sticking together.
- Ensure two empty bottles are located under each funnel outlet on the bottle platform.
- Check all settings and proceed to press the ‘START’ on the home screen.
- Once the machine starts tablets will proceed to flow out of the hopper and travel in a stream around the feeder ring to the exit position located at the front of the machine. Vibration control settings and the hopper outlet position may need to be adjusted to obtain optimum feeding. Settings are explained in detail later in this manual. Note adjustments can only be made when the machine is not in operation.

OPERATION: General Machine Setup (continued.)

- Once tablets exit the feeder ring into the tablet guide they are counted and proceed to one of the pre-placed bottles. Each time a tablet passes the count sensor a count is registered and displayed on the HMI display. Upon reaching the target count, the HMI display will return to zero and the flap mechanism will change position to divert the stream of tablets into the next empty pre-placed bottle. At this point the operator must remove the filled bottle and replace with an empty one to complete the changeover cycle.

- To stop the machines operation, press the 'STOP' on the home screen.

- The alternating sequence will continue indefinitely until the machine is stopped or runs out of product. Alternatively, if the batch function is used the machine will stop when the pre-set required number of bottles is complete. The Batch Counter displays the number of filled bottles and can be reset to zero by pressing the blue 'RESET' Button on the home screen within the batch box area.

OPERATION: Tips and best practice for accurate counting.

- Most operators prefer to have empty bottles waiting to the left-hand side of the machine, the right-hand side is often used to place filled bottles.

- Some operators reject the first bottle in the batch.

- Run the machine at a realistic speed, it is possible to feed product faster than it can be counted so work to an optimum feed rate. Adjust the vibrator control to give a suitable feed rate of tablets onto the feed ring and into the bottles.

- Ensure a single line of tablets is achieved.

- A Control Clip can be fitted to the feeder ring outlet to reduce the outlet width in order to obtain better tablet flow. Controlling the flow at the outlet may allow a high feed rate to be maintained without tablets over-crowding or doubling up.

- Ensure that the machine is kept clean.

- If an undercount of one tablet occurs, check the free running of the flap.

- Flat tablets and capsules riding or piggybacking over one another may cause miscounting.

OPERATION: Machine loading screen and home screen

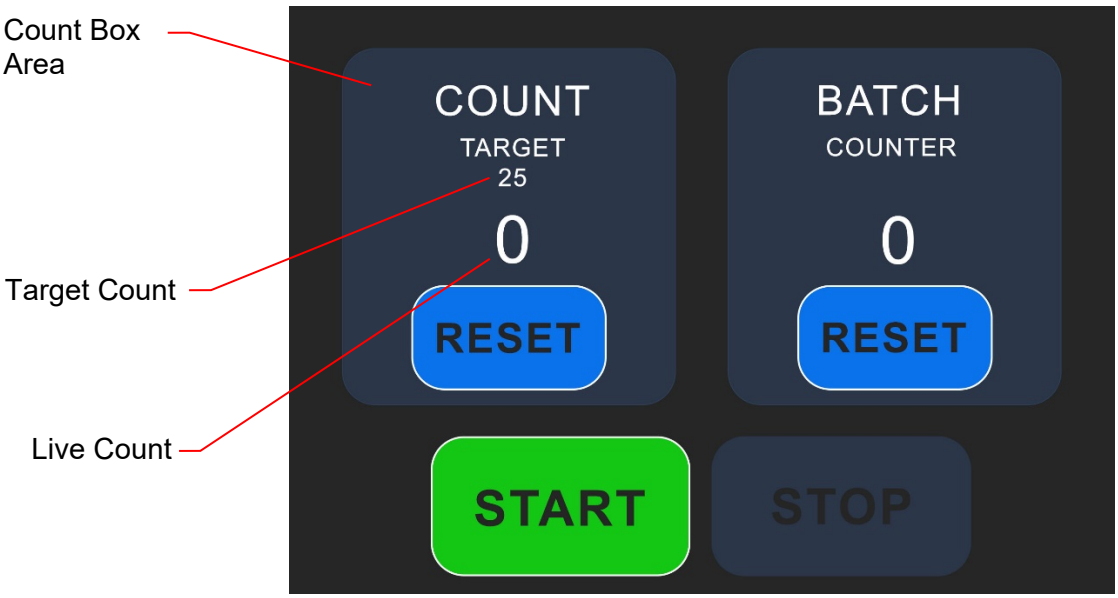
- When switching on the Dispenser Rx a splash screen is displayed. The operator is prompted to touch the screen to access the home screen.

- The home screen comprises of two sections. The pre-defined ‘Target Count’ and live ‘Count’ as well as the ‘Batch Counter’ which displays how many bottles have been filled in a pre-set batch. (If the continuous batch mode is enabled the batch counter functions as a totalizer).

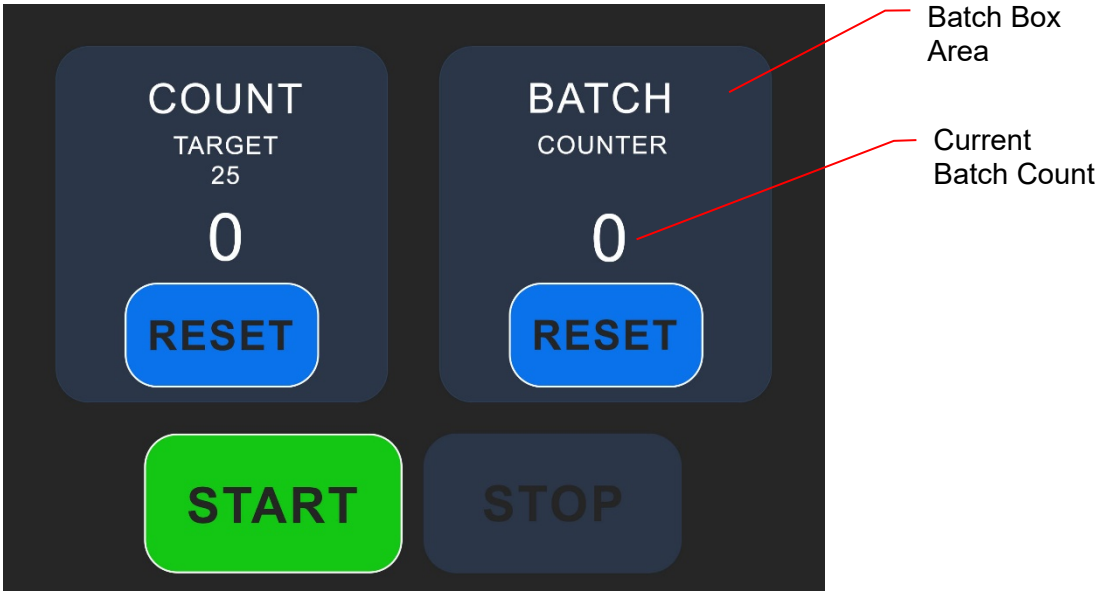
- To **RESET** either the ‘Count’ or ‘Batch’ simply **PRESS** and **HOLD** the **“RESET BUTTON”** for approximately 5 seconds, when resetting the Count, the flap will change position.

- You can access the **COUNT** or **BATCH** settings by pressing within the **COUNT** or **BATCH BOX** areas which are displayed as two dark grey boxes.

OPERATION: Count and batch functional overview



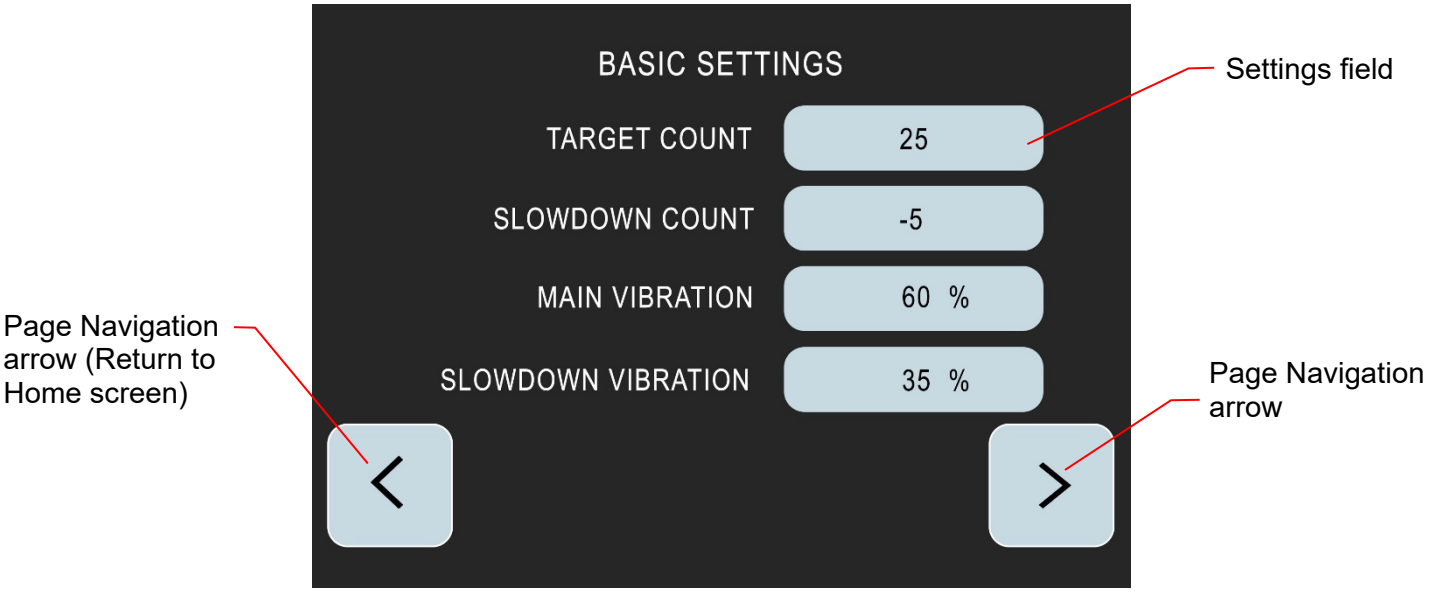
- The **COUNT SECTION** of the interface displays the predefined **TARGET COUNT**. As tablets are processed by the count sensor a live count is displayed in real time. This provides the operator with live data of the productions progress.



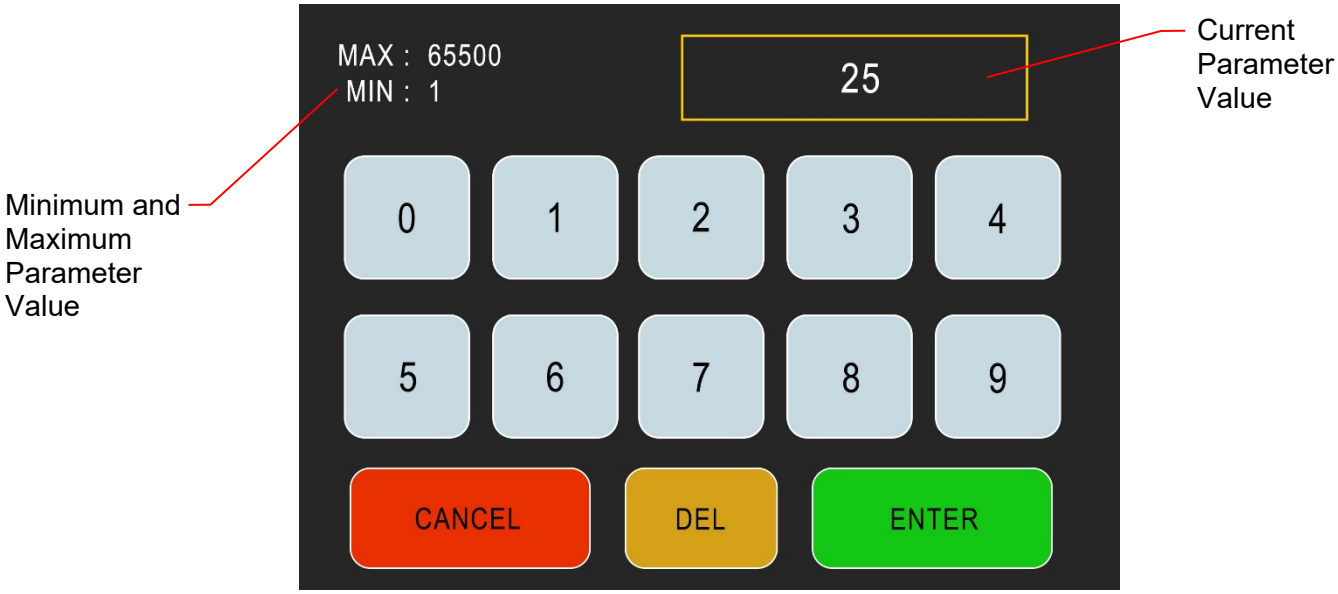
- The **BATCH SECTION** displays live data as to the number of filled bottles. If the batch function is enabled, the **BATCH COUNTER** will increment upwards each time one bottle is filled with the target count. Once the pre-set batch number is reached the machine will stop automatically.

- Setting the **BATCH QUANTITY** is discussed further on in this section.

OPERATION: Parameter Selection and Keypad Entry Screen

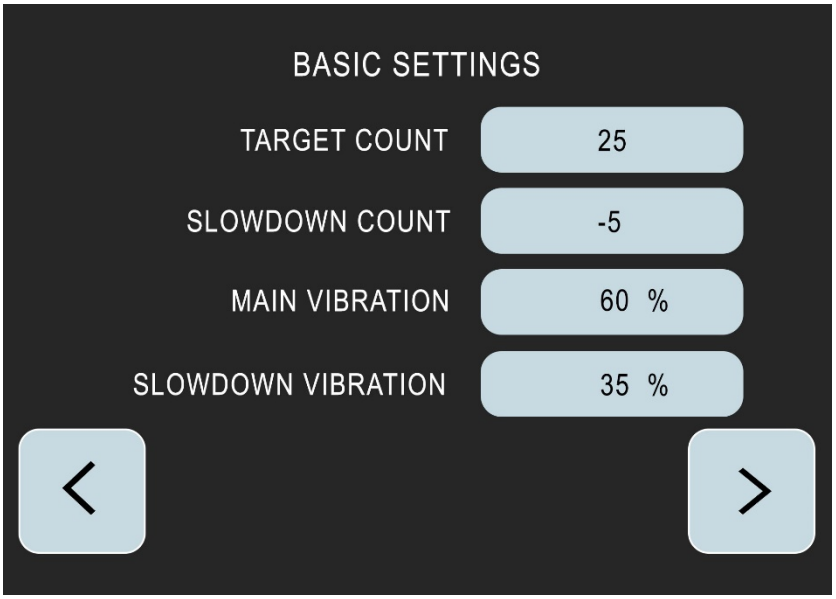


- To change a parameter, press one of the **SETTINGS FIELDS** which will open the keypad entry screen.
- To access **ADVANCED SETTINGS** or to return to the **HOME SCREEN** use one of the **PAGE NAVIGATION ARROWS**.



- Once a **SETTINGS FIELD** has been selected the Keypad Entry screen will be displayed allowing the operator to enter a desired parameter.
- The **CURRENT PARAMETER VALUE** is displayed within a Yellow Border at the top right.
- Once a parameter has been keyed in it can be saved to memory by pressing **ENTER.**
- To exit without making any parameter changes press **CANCEL.**
- The **MINIMUM** and **MAXIMUM** parameter values for the setting are displayed at the top left.
- To **DELETE** a current entry press **DEL,** (Note: A value between the Min and Max must be entered).

OPERATION: Basic Settings Screen

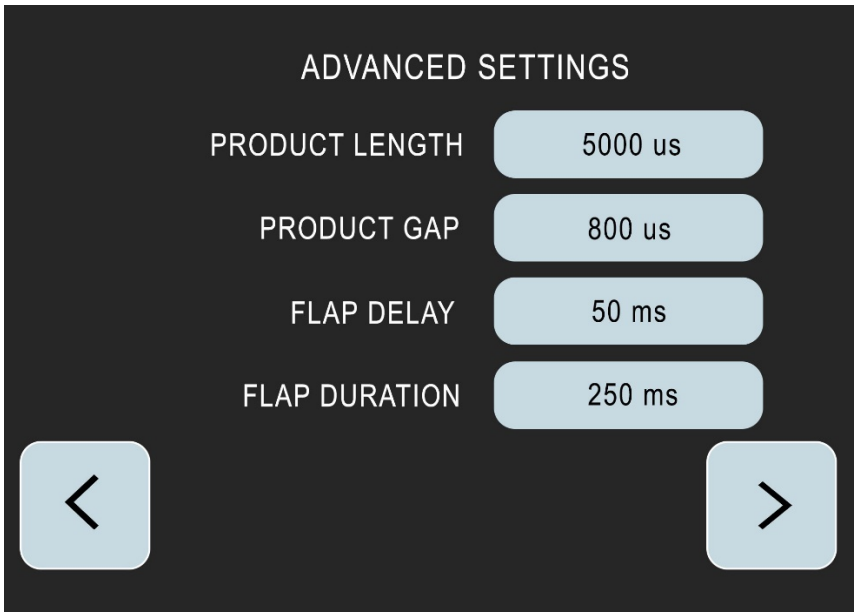


- The 'Basic Settings Screen' allows the operator to adjust the main operational settings like the **TARGET COUNT** or **MAIN VIBRATION**.
- The **TARGET COUNT** is the total number of Tablets or Capsules that will be filled into one bottle. The inputted number is displayed on the home screen.
- The **SLOWDOWN VIBRATION** is a secondary stage of vibration control which enables the tablet feed to slow down just before the **TARGET COUNT** is achieved. This setting assists the separation of tablets at the bottle changeover point.
- The **SLOWDOWN COUNT** is used to set the activation point of the **SLOWDOWN VIBRATION** by presetting the number of tablets or capsules before the target count is completed. For example, setting the **SLOWDOWN COUNT** to -5 with a **TARGET COUNT** of 25 will configure the machine to activate the **SLOWDOWN VIBRATION** when the 20th tablet has been counted.
- The **MAIN VIBRATION** can be incremented 'Up' or 'Down' and is shown as a percentage value. Increasing or decreasing the **MAIN VIBRATION** directly changes the feeding speed.

TIPS

- Keep the **SLOWDOWN COUNT** at around -5 for the best results.
- Running the **MAIN VIBRATION** at 100% will not achieve the best results, for most products 40% to 60% is optimal.
- Products will handle differently depending on shape and weight
- The **SLOWDOWN VIBRATION** can be disabled by setting the parameter to the same as the **MAIN VIBRATION** e.g. **MAIN VIBRATION** of 60% and **SLOWDOWN VIBRATION** of 60%.

OPERATION: Advanced Settings Screen



Units of Time

- s = second. 1s = 1 second
- ms = millisecond. 1ms = 0.001s
- us = microsecond. 1us = 0.000001s

- The **ADVANCED SETTINGS SCREEN** controls additional functions which directly effects the operation of the Count Sensor and Changeover Flap.

- Adjusting the **PRODUCT LENGTH** changes the amount of time the Count Sensor expects to be blocked by a single piece of product as it falls past. Adjusting this incorrectly can cause over or under counting.

- The **PRODUCT GAP** Determines the distance between the current falling and following Tablet or Capsule. Having a gap which is too short may cause an over count, if a gap is too long it will cause an under count.

- The **FLAP DELAY** becomes active after the final tablet or capsule in the target count falls past the Count Sensor. Changing the **FLAP DELAY** will increase or decrease the amount of time a that must elapse after the final tablet or capsule has fallen past the Count Sensor for the Flap to change its position.

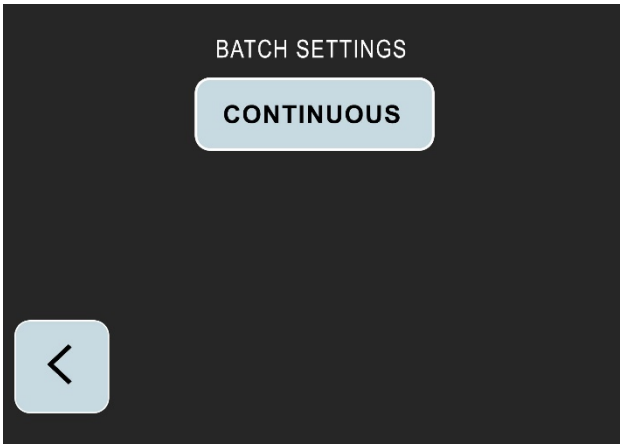
- The **FLAP DURATION** parameter controls the speed of the flap movement.

OPERATION: Advanced Settings Screen (Continued.)

TIPS

- A **PRODUCT LENGTH** of 5000 us is suitable for most applications.
- A normal **PRODUCT GAP** will generally be between 800 us and 1000 us.
- The **FLAP DELAY** parameter may need to be changed if the flap is closing too fast and catching the last tablet in the count or to slow and missing the last tablet in the count. 50 ms is usually fine for most product applications.
- A **FLAP DURATION** of 200 ms to 250 ms is suitable for most applications.
- Adjusting the advanced settings should only be done one parameter at a time to achieve the desired effect.
- Setting very high or low parameters can cause counting accuracy issues.

OPERATION: Batch Settings Screen.



- The Batch Settings screen enables the operator to set a pre-determined **BATCH QUANTITY**. Once enabled the machine will process the pre-determined **BATCH QUANTITY** of bottles and stop when the process is complete.
- The **CONTINUOUS** mode allows the operator to process product through the machine continuously until the machine is either empty or stopped manually.
- To toggle between **BATCH** and **CONTINOUS** modes the operator must press either the **BATCH STOP** or **CONTINUOUS** button depending on which mode the machine is currently set in.

OPERATION: Starting and stopping the machines operation.

STANDBY (Machine ready for operation)

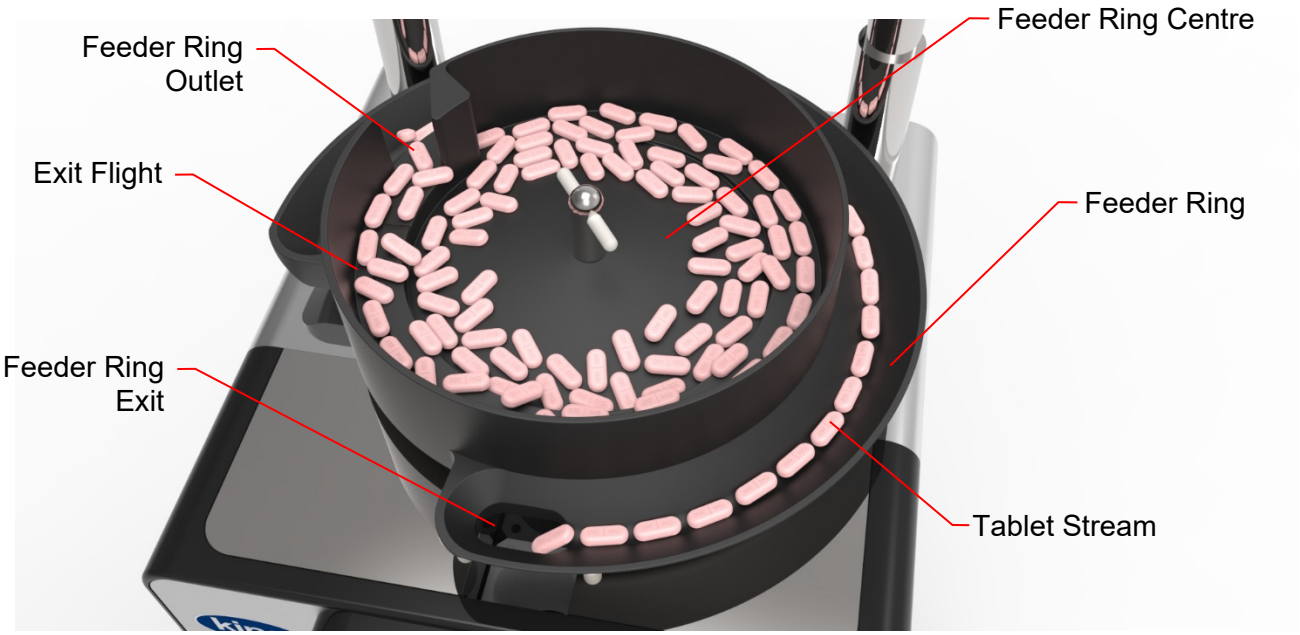
RUNNING (Machine in operation)

- To start the machines operation press the green **START** button. The machines vibratory feeder will commence and the **START** button will become greyed out and the red **STOP** button will be displayed.

- To stop the machines operation, press the red **STOP** button a the machine will immediately come to a halt. The **STOP** button will become greyed out and a green **START** button will be displayed.

OPERATION: Best Practice for Feeding (To Maintain Counting Accuracy)

Note : Shown with Hopper removed for clarity.



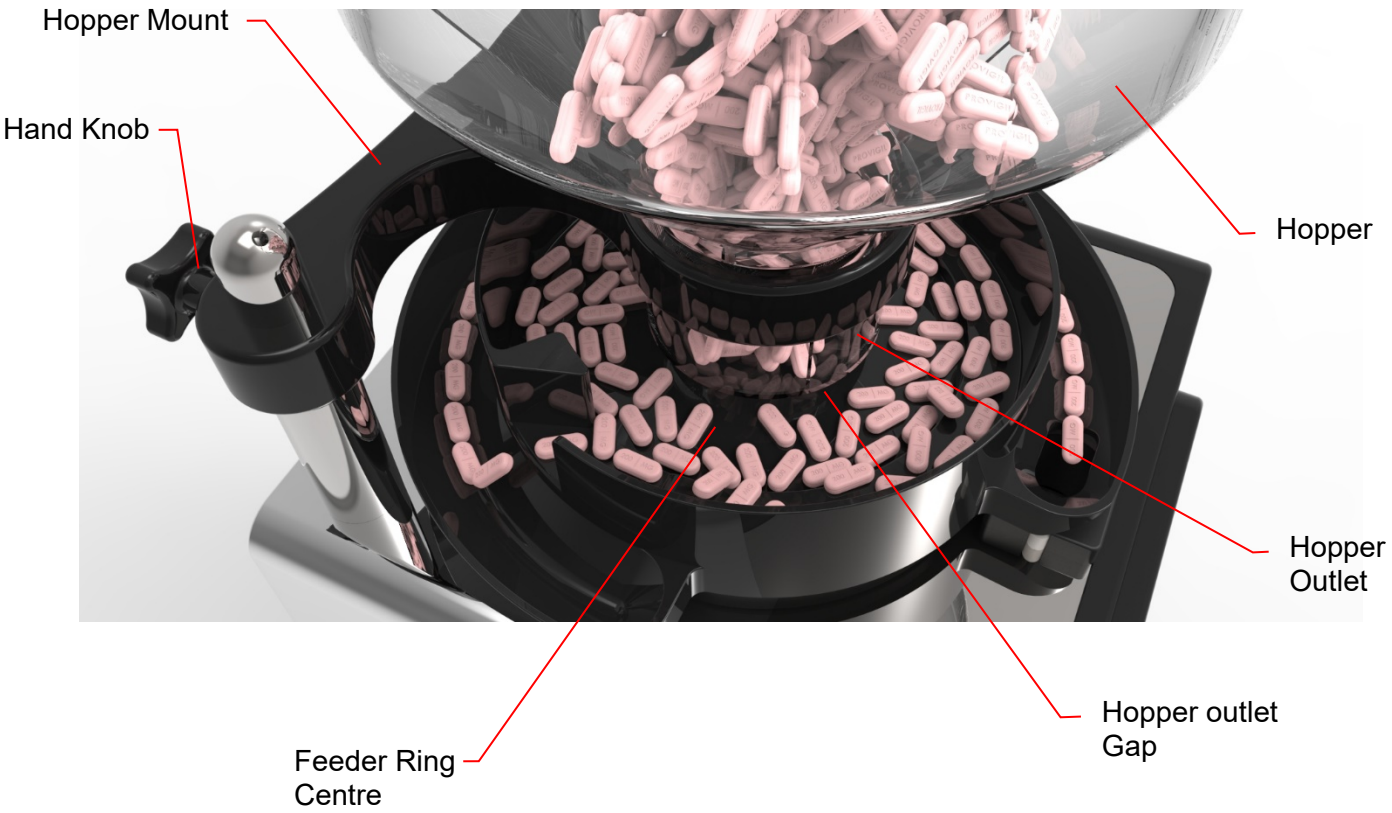
- It is very important to achieve an even product stream in order to avoid tablets and capsules riding or piggybacking over one another when feeding towards the **FEEDER RING EXIT**. If two tablets or capsules exit at the same time this may cause a miscount resulting in an overcount.

- A good product stream is evident when tablets or capsules flow in a single file when exiting the hopper and orientate and align themselves when feeding towards the feeder ring exit.

- It is equally important that the centre of the **FEEDER RING** is not flooded or starved of product but an even balance is achieved. Different product types, sizes and shapes will handle differently so it is important to record the machines settings for future use.

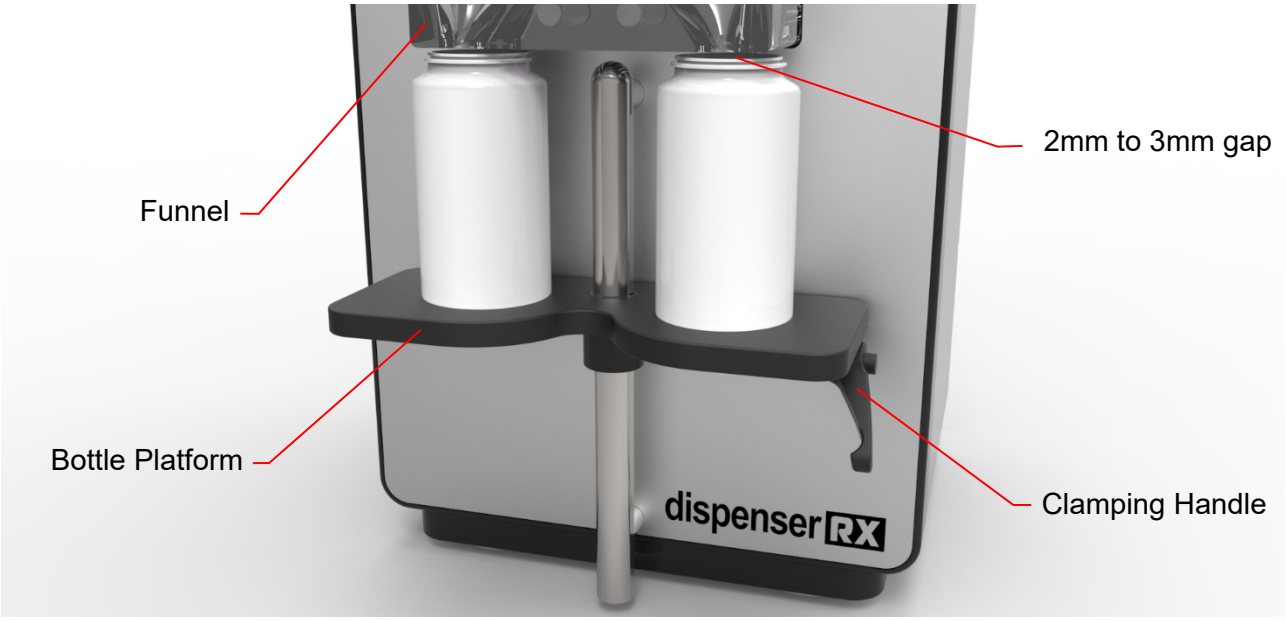
- Certain products such as capsules and small tablets may require an additional **CONTROL CLIP** fitted to the **FEEDER RING OUTLET** in order to restrict the outlet size. This will ensure that any excess tablets or capsules on the **EXIT FLIGHT** fall back into the **FEEDER RING CENTRE** which will result in a controlled flow and allows a higher feed rate without product overcrowding or piggybacking.

OPERATION: Hopper Adjustment



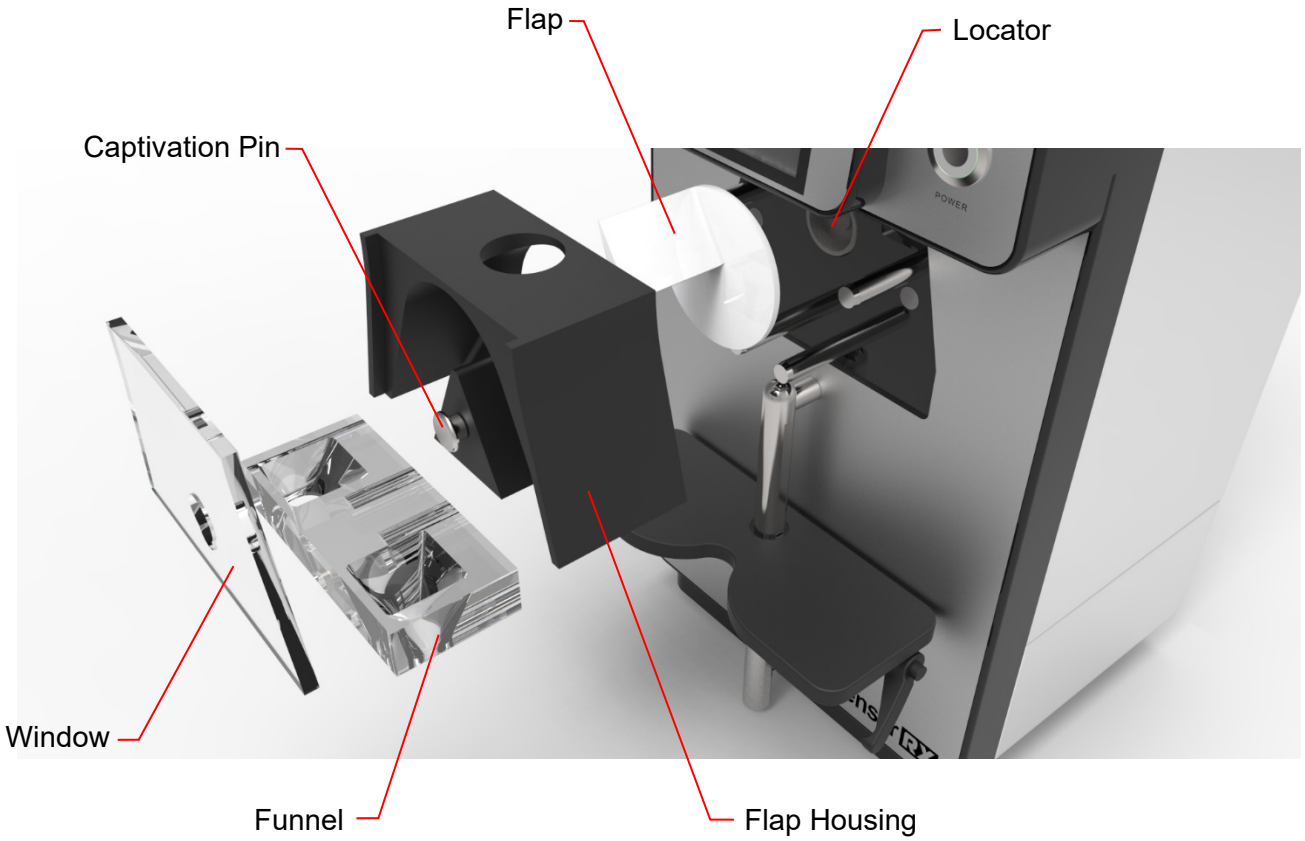
- The **HOPPER OUTLET** gap should be set so that tablets or capsules are evenly discharged into the **FEEDER RING CENTRE**. If the gap is too big the **FEEDER RING** will become flooded with product and too small the **FEEDER RING** will become starved.
- The two **HAND KNOBS** located at the rear of the **HOPPER MOUNT** should be tightened sufficiently to ensure the **HOPPER** does not change position during operation.

OPERATION: Correct Bottle Platform Adjustment



- To adjust the **BOTTLE PLATFORM** first loosen the **CLAMPING HANDLE** to allow the **BOTTLE PLATFORM** free movement.
- Using two bottles manually adjust the height of the **BOTTLE PLATFORM** using the **CLAMPING HANDLE** located on the right underside to achieve a small gap between the underside of the funnel and the top of the bottle neck opening. Leaving a small gap of between 2mm and 3mm between the underside of the funnel and neck opening of the bottle facilitates easy placement and removal of bottles during operation.
- Proceed to tighten the **CLAMPING HANDLE** once the **BOTTLE PLATFORM** is located in the correct position.

OPERATION: Disassembly of the flap housing and funnel components



- To disassemble the flap housing and funnel components firstly remove the **FUNNEL** by pulling it away from the front of the machine.
- Proceed to let the **WINDOW** drop downwards on the **CAPTIVATION PIN** enabling the **WINDOW** to be withdrawn from the **FLAP HOUSING.**
- The **FLAP HOUSING** and **FLAP** are both held on with magnets. Firstly remove the **FLAP HOUSING** by pulling it away from the front of the machine.
- Complete the process by removing the **FLAP.**

Note: When reassembling the **FLAP** back onto the **LOCATOR** ensure the dowel pin is in correct alignment with the locating slot at the rear of the **FLAP**.

OPERATION: Disassembly of the hopper, feeder ring and tablet guide

- Begin by removing the **HOPPER LID** (if fitted) and proceed to loosen the two **HAND KNOBS** locate at the rear of the **HOPPER MOUNT**. Once complete the hopper assembly may be removed.
- Proceed to untighten the **CLAMP** located in the centre of the **FEEDER RING**. Once remove this will allow the operator to remove the **FEEDER RING**.
- Finally withdraw the **TABLET GUIDE** from the top of the machine.

GENERAL MAINTENANCE AND CLEANING

Overview

The following section covers measures which must be taken to retain and/or restore the design condition of the Dispenser Rx Benchtop Tablet/Capsule Counting Machine.

This includes:

Maintenance to be performed on a regular basis according to the given schedules in order to retain the functional ability of the machine.

Periodic inspections to assess the actual condition of parts and components of the machine which are subject to wear.

Corrective maintenance work by repair or replacement of faulty, worn or over aged parts and components.

In practice the following have shown to be particularly critical aspects:

Non-observance of specified maintenance schedules.

Fitting of non-conforming parts.

Use of non-conforming utilities.

OPERATOR REQUIREMENTS
Understand how to operate the machine safely.
Have a clear understanding of the entire process and the function of each component within the process.
Understand the purpose and basic use of all the controls.
Be able to perform basic adjustments and troubleshooting tasks and assist in product changeovers.

MAINTENANCE TECHNICIAN REQUIREMENTS
Have an advanced understanding of how to operate the machine safely.
Understand the control system that ties the machines together.
Know how to effectively troubleshoot the process.
Know how to effectively troubleshoot and repair the machine.
Perform routine maintenance and perform product setups and changeovers.

WARNING

Isolate the equipment from the electrical supply before you remove covers. Switch OFF the machine and isolate it from the electrical supply before investigation into any operating difficulty or performing general maintenance.

GENERAL MAINTENANCE AND CLEANING (Continued.)

Cleaning

Clean stainless steel and plastic components using a cloth damped in hot water and finish off wiping with a clean dry cloth.

Remove grease or oil from metal parts with methylethyketone (MEK) or carbon tetrachloride (CTC) used sparingly and observing safety precautions associated with these solvents.

WARNING
Mixing different types of grease is dangerous in some cases.

Recommended lubricants for general use

Grease – Lithium based grease (JIS No.2), Urea based grease (JIS No.2) or Albania Grease No.2 (Showa Shell Sekiyu)

Oil – Sliding surface oil or turbine oil ISOVG32 ~ 68, Tonner Oil (Showa Shell Sekiyu) or Vactra No.2S (Mobile Oil)

CAUTION
Failure to observe the instructions could result in damage to the equipment, associated equipment and processes.

CONTACT PARTS LIST

PART NUMBER	COMPONENT DESCRIPTION	MATERIAL
M 20099	HOPPER WITH LID	Polycarbonate (PC)
M 20132	WING KNOB M8	ANSI Stainless Steel 316
DC 6081011B	TABLET GUIDE UPPER	Delrin Homopolymer (Polyoxymethylene POM) - Black
DC 6081014B	FEEDER RING	Delrin Homopolymer (Polyoxymethylene POM) - Black
DC 6081017A	FLAP	Delrin Homopolymer (Polyoxymethylene POM) - White
DC 6081018E	FLAP HOUSING	Delrin Homopolymer (Polyoxymethylene POM) - Black
DC 6081020B	HOPPER MOUNT	Delrin Homopolymer (Polyoxymethylene POM) - Black
DC 6081021B	WINDOW	Perspex GS Acrylic Cast Sheet
DC 6081024B	TABLET GUIDE LOWER	Delrin Homopolymer (Polyoxymethylene POM) - Black
DC 6081034B	HOPPER OUTLET SLEEVE	Delrin Homopolymer (Polyoxymethylene POM) - White
DC 6081037B	FUNNEL	PMMA (Cast Acrylic) – Clear (TECACRYL)

SPARES AND ACCESSORIES

Spare parts and accessories are available from your local agent or directly from C.E.King Limited

In order to accurately process an enquiry, ensure the following information is provided:

Machine model and description (e.g. Dispenser Rx)

Machine serial number.

Spare part number and description.

PART NUMBER	COMPONENT DESCRIPTION	QUANTITY

STORAGE

The following procedure is recommended for storing the Dispenser Rx

- Isolate the machine from the electrical supply.
- Clean the machine to a suitable standard
- Cover or wrap the machine and its ancillaries to protect it from dust.
- Store in a cool and dry location until it is required for use.

WARNING

To avoid serious injury always use suitable mechanical lifting equipment to safely lift and position the machine.