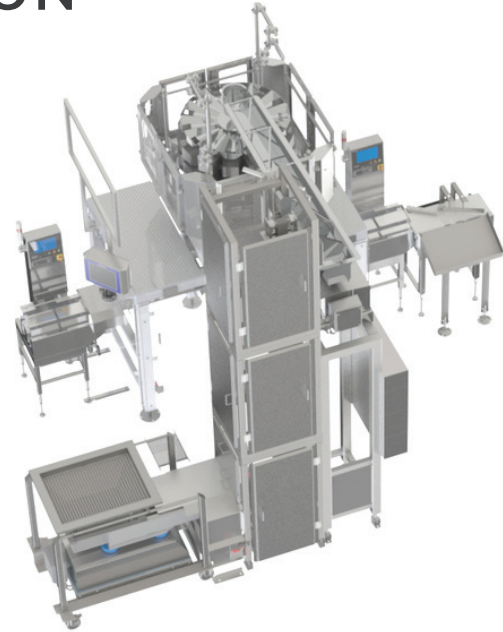


AUTOMATED CANNABIS WEIGHING AND BOTTLE FILLING SOLUTION

To develop a GMP compliant net weighing solution to meet all the stringent Health Canada accuracy requirements.



REQUEST

There was a need to automate a manual process of packaging 3.5g of cannabis flower into bottles. In the existing process the client had 20 plus manual packers, manually weighing the product to achieve the required accuracy.

DISCOVERY

The existing process was very time consuming and labor intensive. Each operator was only able to output 1 bottle/min to meet the Health Canada standards.

The client had reservations about the performance and accuracy of the scale and checkweighers. Extensive proof of concept trials to verify the capability of the scale to meet the regulatory weight requirement and verify the two checkweighers capability to calculate the net weight of the empty bottle within 10 mg were conducted.

Once confirmed that the equipment could accurately weigh the product to meet the regulatory weight requirements, we set to design a turnkey bottling solution to meet all the customers GMP, speed, sanitation needs and data collection.

SOLUTION

- Infeed System, Lower and Upper Vibratory System, and Tipper
- Multipond Combination Scale
- Bottle Indexing/Filler
- Anritsu Net Weight Checkweighing System
- Fail Safe Reject with Reject Confirmation
- Customized Line Integration and Controls

SOLUTIONS USED IN THE PROJECT

CELEBRATING
30
YEARS
1990 to 2020

BBEY
EQUIPMENT SOLUTIONS

EQUIPMENT

Multipond 14 or 28 head weighing system depending on the targeted speed of either 40/min or 80/min was used in the solution.

- Fully automated calibration of the weigh cells
- Argus 3D camera for accurate distribution of the flower
- IP69 construction
- Draft protection cage
- Automatic reject for out of tolerance hoppers

Anritsu SSV-h Checkweighers were used due to the high accuracy and ability to function as a net weighing system. The first checkweigher transmitted the empty bottle (tare) weight to the final checkweigher which calculates the final net fill weight.

- +/- 10 mg accuracy on the checkweighers
- Fail safe reject device allows accepted product to pass while diverting out of spec products off the line

INTEGRATED MECHANICAL SOLUTIONS

- A custom vibratory infeed with grid allowing specific flower sizes to enter the tipper to ensure ease of product into the package
- A tipper was designed to provide a single hopper transfer of the product from the floor to the scale. Due to its simplicity, with the single stainless steel bucket it is extremely easy to clean allowing for quick change over between strains
- Allen Bradley controls were used to integrate and for line control. OPC server and eWon LAN device were provided for data collection and remote support
- Bottle filler incorporating servo feed screw, rise and fall funnel, cantilevered conveyor for easy belt removal and safety door with category 3 interlock

SERVICES

- Programmed and performed extensive testing to ensure the system was Health Canada and GMP compliant
- Provided full system FAT prior to shipment
- Installation and training
- SAT to complete the project

