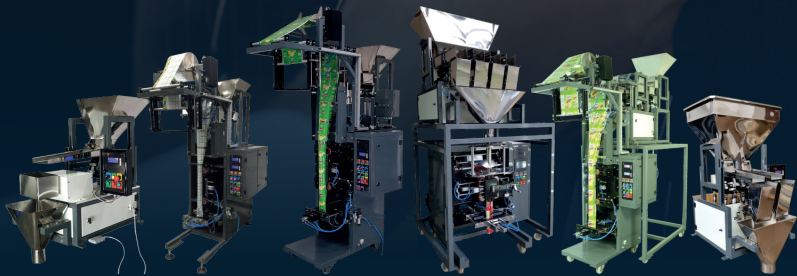




MUNKY'S

BESPOKE POUCH PACKING SOLUTIONS



by Mayank Shekhar

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BROKEN NOODLE SEASONING CHALLENGE

By Mayank Shekhar

Background

Broken noodles are fast becoming popular and the market size is gradually increasing. Once the consumers start to prefer a certain brand due to the taste want to have the same taste every time they buy the product. This represents a challenge for the manufacturers.

Ready to cook broken noodles are a symphony of broken noodles, dehydrated vegetables and spices that are premixed to take away the skill of cooking and get a perfect balanced noodle every time. The challenge for the manufacturer is how to get the same quantity and mix of dehydrated vegetables as per the recipe in every retail pack.

Problem

Traditionally the noodles and dehydrated vegetables are premixed in a certain batch or on a conveyor belt and then dosed in the retail pack. This method however has certain disadvantages, it cannot be ensured that each retail pack has a similar quantity of carrots or peas or some other vegetable. Apart from the taste, the visual feel of the product after cooking is not consistent from packet to packet. Sometimes I may get more carrots, sometimes fewer carrots and sometimes no carrots at all!

The major challenge is to maintain product consistency. And having a consistent product is the key to maintaining a sustained market leadership position.

Solution

A method of accurately weighing and dosing dehydrated vegetables and dosing them in the retail pack with broken noodles is the answer to this challenge. Also, there needs to be a system to maintain the confidentiality of the recipe.

We at Munky designed the PICO WEIGHER Series of linear weighers coupled with a RECIPE MAKER as a solution that works well for this application.

The RECIPE MAKER is an electronic control system that stores the recipe of the product. It can be physically located under lock and key in a separate location up to 40 feet from the machine. It stores the recipes and is password protected.

The PICO WEIGHER is a linear weighing system that can weigh from a few milligrams to about 100gms products. There are different hoppers for different vegetables and broken noodles. The material is accurately weighed in the weighing pans and then dispensed. The retail pack can be in the form of a pillow pouch which can be formed by using MUNKY's Auto Bagger or it can be dispensed in a plastic cup which comes on a conveyor under the PICO WEIGHER.

The recipe cannot be displayed on the dispensing machine, it only keeps receiving the information from the recipe maker electronically and processes it. This helps in maintaining the secrecy of the recipe at the operator level and in any case, there is password protection in the recipe maker.

The advantage of this revolutionary system is that each retail pack gets all the different vegetables within a small tolerance along with the broken noodles. This ensures that you get the same taste lot after lot, month on month and year on year.

BLENDED SPICES; CONSISTENCY IN TASTE, THE REAL DIFFERENTIATOR!

By Mayank Shekhar

Background

The demand for blended spices is ever increasing in the Indian market and abroad for a variety of reasons. It deskills the whole cooking process and one is able to prepare a dish which tastes good and is consistent every time. Masala brands are focusing a lot on multiple such variants like chole masala, pav bhaji masala etc.

The blended spices are carefully manufactured using a range of spices which are added in a specific proportion as per the product's recipe which is closely guarded.

Problem

Traditionally a batch of the specific blend is prepared by manual picking of the individual ingredients, weighing them and then putting them together in the grinding machine.

Manual weighing and mixing poses a challenge of inaccurate weighing due to human errors. Further there is a chance of a particular ingredient getting missed out.

As each brand has its own blend of spices and the secrecy of the recipe is of utmost importance, so the key persons are always present to supervise the blending process.

Having the exact weight of each ingredient in the blend is the key to winning and retaining customer loyalty.

A number of our existing customers for packaged spices approached us with this blending problem. We took up the challenge to find a solution.

Solution

A method of accurately weighing and dosing the individual ingredients to form a batch which can be ground while maintaining the recipe a secret.

We at Munky designed a linear weigher coupled with a RECIPE MAKER as a solution that works well for this application.

The RECIPE MAKER, is an electronic control system that stores the recipe of the product. It can be physically located under lock and key in a separate location upto 40 feet from the machine. It stores the recipes and is password protected.

The linear weighing system can weigh from a few grams to about 1kg of individual ingredients. There are different hoppers for different ingredients. Under each hopper there is a vibratory feeder which feeds the product into a micro weighing pan. The material is accurately weighed in the weighing pans and then dispensed into a bucket mounted on a conveyor. The conveyor then empties these into a single container located at the end of the conveyor.

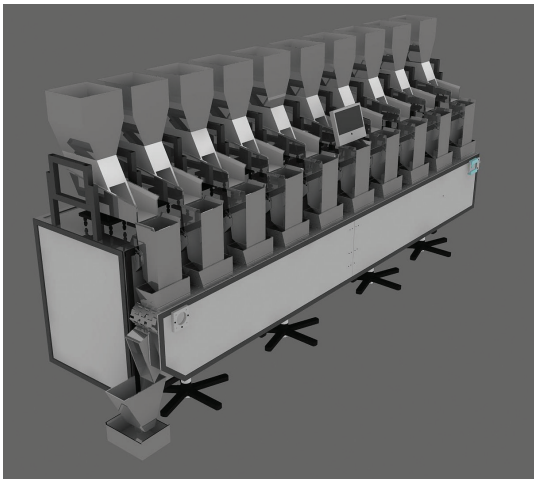
Only the total batch quantity is to be entered in the system and the machine decides how many cycles it has to run to match the target total weight of the batch.

The recipe is defined in the RECIPE MAKER and is password protected.

The machine is electronically connected to the recipe maker. The operator can only select the name of the blend and key in the quantity of the batch. Rest all is taken care of by the machine automatically.

The recipe cannot be displayed on the machine, it only keeps receiving the information from the recipe maker electronically and processes it. This helps in maintaining the secrecy of the recipe at the operator level and in any case, there is password protection in the recipe maker.

The advantage of this revolutionary system is that each batch gets the same ingredients that are electronically weighed automatically. This ensures that you get the same taste lot after lot, month on month and year on year.



GARAM MASALA WEIGHING AND PACKING CHALLENGE

By Mayank Shekhar

Background

Garam masala blend originated in North India and has been traced to be used ever since the 13th century. According to Ayurved it is not hot but has a warming effect and is extensively used in Indian cooking. There is no single recipe for garam masala and it keeps varying from region to region.

The proportion varies according to the tastes of different regions and cooking styles. Earlier our mothers and grandmothers used to make garam masala at home. Modern lifestyle, shortage of time to cook, lack of skill, increasing costs and nuclear family structure have resulted in the need of ready-made garam masala in small pouches. With weights varying from 4gm to 50gm which can be put directly in the dish at the time of cooking. The demand in this niche has been growing steadily.

Problem

Typically garam masala contains Laung, Dalchini, Kali Mirch, Zeera, Javitri, Badi Eilaichi, Choti Eilaichi and Tej Patta. These spices are of different shapes and sizes and pose a problem in packing, which is

why most of the packing of khada garam masala (whole spice - garam masala) is still packed manually.

Putting all these ingredients together in one pouch manually and quickly poses a real challenge, especially when the pack sizes are small, in the range of 4gm to 25gm.

The weight of the individual ingredients in the pouch is important as it impacts the flavour of the dish being cooked. And for manufacturers, this is a very important factor to maintain their brand preference and leadership.

It is not practical to weigh and pouch each spice manually. For small packs in the range of 4 gm to 25 gm it is simply too difficult and time-consuming. And it has many concerns like

- Error in weight, which effects the flavour
- Unhygienic packing condition
- Highly labour intensive
- Extremely low productivity
- High cost of production

Solution

A method of accurately weighing multiple ingredients simultaneously, and then dispensing them into a single pouch and packing it is the way forward.

We at MUNKY have designed PICO WEIGHER with an integrated RECIPE MAKER, to solve this challenge.

The machine has multiple weighing heads to weigh individual spices. Some larger particle size products like Javitri are broken into smaller particles before packing as their quantity per pouch is very less and the complete flower cannot be added to one pouch. The number of heads is equal to the number of ingredients to be packed. The recipe of a particular net weight is stored as a program which can be recalled with

the click of a button.

All ingredients are weighed individually and dispensed together in the same pouch. The machine is available in different sizes and number of heads as per the application.

- ✓ Get consistent weight resulting in a better final taste
- ✓ Pack Hygienically
- ✓ Drastic reduction in manpower requirement
- ✓ Fully Automated system of weighing and packing
- ✓ Scalable production

TEA PACKING MULTINATIONAL INCREASED 3% GROSS PROFIT BY FOCUSING ON EGA

By Mayank Shekhar

Background

A Multinational company packs tea using a weigh filler machine which lacks key features. The cost of TEA has been increasing steadily over the years. A focus on keeping the packed weight within a certain range becomes important to maintain the profitability of the business.

EGA stands for EXTRA GIVE AWAY, a metric that is used by professional companies to closely monitor the net weight being packed. The Weights and Measures Department of the Government defines norms for how much error can be in the weight. Despite this tolerance, the average weight of 100 bags needs to be more than the displayed weight. Further, companies also have their internal standard where they pack little more than the displayed weight on the packet to ensure consumer delight.

Problem

The weigh filler which was in use by this company used vibratory

feeders and weighing pans which were pneumatically operated. They were facing significant problems in their packing system and needed a supplier who could study the process and implement the changes they wanted in a standard machine.

- EGA was over 3%, and for a company that has multiple machines in one plant, that are running 3 shifts and has multiple plant locations, this is quite a lot of monetary value, which far exceeds the equipment cost. The investment in the equipment is one time but the returns are for a lifetime. The payback period for this solution was under 3 months.
- Excessive maintenance hassles related to compressed air like leakage of compressed air, regular maintenance of air compressors and air-dryers etc.
- Excessive consumption of compressed air which is very expensive
- The Existing system has poor electronic controls which are not very operator friendly and is ineffective.

Solution

The maintenance department of this company was searching youtube for a solution and they found us. Munky's Linear Weighing Technology was adopted as a trial on one system which was later replaced on multiple machines.

They were using a line carton machine for packing the cardboard boxes in which tea is sold and this was integrated with Munky's Linear Weighers.

Depending on the line carton machine's speed 8 Head / 12 Head weighing systems were incorporated to increase the overall speed of packing.

With accurate dosing of TEA, the EGA was reduced from 3.5% to 0.3% resulting in an overall saving of 3% in gross profit.

Additional customised controls were incorporated to the machine's

operator interface and controls as per the customer's maintenance team's feedback :

- ✓ Additional material saved during machine setup
- ✓ Ease in emptying the hopper at the time of changeover
- ✓ Provision of disabling a particular head in case of malfunction while the machine keeps running with the ones that are ok.
- ✓ Poka-Yoke added in the machine's design to not discharge the material in the pouch, if the weight goes out of range of a predefined tolerance.

MAKHANA PACKING CHALLENGE

By Mayank Shekhar

Background

Makhana - a healthy snack is becoming very popular in the snack industry. With the growing retail trend, it is now being packed in retail pouches. Inherently makhana (foxnut) is an expensive material and since it is found naturally the size differs. There is a difference in the price of smaller particle size and big particle size makhana. Consumers prefer to have big size ones but to maintain the economics manufacturers use a blend of smaller and larger particle sizes. If the particles are mixed in a blender then the mixture can never be homogenous. This is where MUNKY's batch mixer comes to the rescue.

Problem

- Maintain a certain ratio of big and small particles
- Pouches may have a transparent window at the bottom of the pouch, it is desirable to have the larger particles be more visible in the window.

Solution

Munky's 2 Head Linear Weigher with batch mixing functionality was used to overcome this challenge. In one head larger particles were put

with a weight corresponding to 60% of total weight and in the second one, smaller particles were put with a weight corresponding to 40% of total weight. The transparent portion of the pouch was towards the bottom. The machine was programmed to drop the larger ones first and then the smaller ones. This helped in maintaining the economics and at the same time, the visual appeal of the product improved.

Act Now

To discuss your application with our Pouch Packing Application Specialists by just giving us a call at 9599919442 or 8882210843. Or write to us at sales@munky.in and our team will contact you as soon as possible.

About the Author

Mayank Shekhar is considered to be the Guru of the Pouch Packing Industry. He studied Electrical and Electronics Engineering at MIT Manipal, thereafter he studied management at IIT Delhi. He has a wide experience in manufacturing of 25 years. Over 1.17 lakh people have subscribed to his youtube channel and gained significant insights shared by him periodically through his videos. He is India's first patent holder for Linear Weighers and has authored 10 books, out of which many are related to the field of pouch packaging. He is the Founder and CEO of Shekharson Technologies LLP, a company engaged in manufacturing Pouch Packing Machines. He can be reached at mayank@munky.in or by mobile: **9810348600**

