



▶ FEEDING IN THE LATEST

▶ MINIATURE BOWL FEEDER

▶ FEEDING OF URANIUM PELLETS



# Elscint Ahead

Components for which systems are available

## *Feeding In The Latest . . .* *Monish Shete*

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First of all, a belated happy Diwali and Prosperous new year to all of you. Coming to this edition of the Elscint Ahead Newsletter. The first news story of this edition is about a very small bowl feeder for feeding of a part whose orientation too has to be observed with a magnifying glass! The second news story is about recently supplied feeding systems for feeding of Uranium pellets. As usual you can download the [pdf version](#) of this newsletter as also the back copies of the [Elscint Ahead Newsletter](#).

### **Miniature Bowl Feeder for feeding dia 2.6 mm x 1.6 mm part with 0.6 mm chamfer**

[Elscint](#) recently supplied one more precision vibratory bowl feeder for a small part having dia 2.6 x 1.6 mm ht having a 0.6 mm chamfer on one side length. One side had a small chamfer of 0.6 mm. The chamfer end was required to be down while coming out flat on a linear vibrator. In fact, Elscint has manufactured more than 5 bowl feeders for this particular part for a leading multinational company.

As usual most bowl feeder manufacturers regret such a small component and hence Elscint remains the only solution for manufacturing such precision bowls. In fact, it was in fact even difficult to observe the chamfer easily by a naked eye. A speed of 100 parts per minute was observed as against the requirement of 25 parts per minute. The orientation was first made to ensure than the chamfer side was up. Thereafter the part was twisted in 180 degrees to get the chamfer side down. Twisting such a small part is not only very difficult but also requires a lot of skill which few new bowl toolers now possess. After twisting the part, it was taken forward on a small linear vibrator of around 150 mm length. Thereafter, additionally a single part was singulated for ease of pick up with a Festo make cylinder. This too required very precision work.

The bowl had a diameter of just 100 mm and the model used was Model 100 which incidentally also has a drive diameter of 100 mm only. The linear vibrator used was also a very small one (Model VI) You can watch the video of the Elscint [Bowl feeder for feeding the small chamfer part](#).



## 8 Vibratory Bowl Feeders for feeding of Uranium Pellets

[Elscent](#) recently manufactured eight vibratory feeding systems for feeding of uranium pellets to a centerless grinding machine. In fact, Elscint had already supplied 10 similar systems earlier to the same customer. The pellets were having diameter 12 mm to 16 mm and length too varied between 12 mm to 18 mm. Handling of uranium pellets is hazardous for the operator and hence the customer wanted to automate his process. The earlier systems supplied by Elscint had been working continuously to the satisfaction of the customer without any problems. In fact, the earliest supply was more than 12 years back and hence the customer was confident about ordering more repeat systems. The customer had seen that the output of his grinding machines had increased tremendously due to automatic feeding and productivity too had increased. Another advantage of feeding the pellets automatically is that the chipping percentage reduces if the vibrator bowl is optimally designed. The complete equipment consisted of a vibratory bowl feeder and conveyor ahead of the same. Thereafter a linear vibrator with a V type chute was provided to take the parts upto the grinding machine work-rest. Additionally, a loading tray with a linear vibrator was provided on the top of the vibratory bowl feeder for loading the pellets through their boat. The complete vibratory bowl feeder was covered with a noise enclosure with a top polycarbonate cover to ensure that no fumes came out of the equipment. The fumes being radioactive, it was imperative that a separate suction be provided to ensure that the same are removed. Provision was made for this too. A cubical Stand with (+/-) 200 mm ht. adjustment and X – Y movement was provided for ease of adjustment.

The customer was worried about the extent of chipping of the pellets and removal of the chips and dust. For this, proper dust holes were provided with a pipe to take out the dust and chips from the equipment. They were accumulated in a separate bin.

The bowl was lined with Brushlon coating to ensure that chipping was negligible and also the feed rate was improved. A total feed rate of 250 pellets per minute was achieved.

Elscent not only completed this equipment but installed and commissioned the same at the customers plant. [You can have a look at the video of the same.](#)



### **Elscent Automation**

W-191 Bhosari MIDC

Pune 411 026. India Tel.: +91-20-27122059

Email – [sales@elscentautomation.com](mailto:sales@elscentautomation.com)

Website – [www.elscentautomation.com](http://www.elscentautomation.com)