

# Elscint Ahead



▶ FEEDING IN THE LATEST

▶ FEEDING OF SMALL BALL GUIDE

▶ FEEDING OF ENGINE VALVES FOR LASER WELDING



Components for which systems are available

## *Feeding In The Latest . . .*

*Monish Shete*

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Welcome to the April edition of the Elscint Ahead Newsletter. The first news story is of a recently completed project while the second project was completed almost two years back. The first one is about a very small bowl feeder while the second is a very large one (dia 1200 mm), As usual, you can write to us with your feedback and also download the back copies of the [Elscint Ahead Newsletter](#) and the [pdf version](#) of this newsletter.

## Feeding of small ball guide

[Elscint](#) recently completed a project where the requirement was to feed a very small ball guide having size dia 2.15 mm x 2.30 mm ht. The parts were required in two rows in axial orientation. The part had a chamfer on one side and the chamfer was required to be always leading. The chamfer being just 0.5 mm, made the orientation very critical. When the parts are small and orientation is critical, it is imperative that the equipment be made with high accuracy. Hence, Elscint manufactured a machined bowl made of stainless steel for this application. This ensured that the accuracy was very high. Orientation tooling was made by hand and screwed to the bowl. This ensured that if any adjustment is required, it can be easily made in the future. Further, another size having dia 2.45 x 3.45 mm length was also required to be fed in the same bowl. The tooling being attached by screws, ensured that the when the parts changed, the changeover would be fast and easy. Additionally, as there were two outlets, proper overflow was needed to be ensured on each of the outlets. A speed of 30 parts per minute was achieved per outlet as against the customer requirement of just 8 parts per minute per outlet. You can watch the video of the [bowl feeder for ball guide](#).



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## Feeding of Engine Valves for laser welding with indexing mechanism

Sometime back, [Elscint](#) manufactured and supplied a Vibratory bowl feeder for feeding of Engine Valves having head diameter from dia 20 mm to dia 48 mm with length varying between 60 mm to 140 mm in head down orientation. The tendency of the engine valves is to come up in axial orientation, either head forward or behind. Making them in head up orientation is easy as a single slot in the wall makes them head up. Making them head down requires a different type of orientation tooling which Elscint provided in this bowl feeder. The tooling was made so versatile that all the above sizes could be accommodated without any changeover. This resulted in ease for the operator when sizes are changed. The requirement was to feed the valves for laser welding. Hence, Elscint offered an indexing table where a single engine valve was kept ready for laser welding. After the laser welding operation, the valve was released into a bin. Elscint provided the complete system, including a linear vibrator to move the valves from the bowl feeder onto the indexing table, a singulator and pusher to push the valves onto the indexing table. Thereafter, the valves were taken to the welding position. Here too, Elscint provided mounting arrangement for the laser welding machine with X-Y and Z adjustment which could be used as the valves sizes change. An extra cylinder was also used to ensure that the valves remain in place during the welding operation.

After the laser welding, on the next station, the valves were released into a bin. A cycle time of 30 parts per minute was achieved. The complete system was controlled through a Siemens make PLC. [You can watch the video of the equipment.](#)



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