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▶ FEEDING IN THE LATEST

▶ ELSCINT O RING
STACKING MACHINE

▶ BOWL MATERIAL

Elsclint *Ahead*



Components for
which systems are
available



Feeding In The Latest ...
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What a month this has been, first the devastating Japanese earthquake, followed by the tsunami and the nuclear crisis. Here in India, the Cricket World Cup win and now with the start of the IPL. Coming to this edition of the Elscint Ahead newsletter, the first news item is about a stacking machine for O Rings while the second is about the various types of bowl materials which can be used while making a vibratory bowl feeder and their advantages and disadvantages.

Elsclint O Ring Stacking Machine

Elsclint has developed an automatic stacking machine for stacking of O Rings. Various sizes of O Rings can be stacked in the same machine with some changeover tooling. O Rings having diameter from dia 8 mm to dia 60 mm can be stacked. Larger sizes are also possible, in case of requirement. The O Rings move upwards on the track of the bowl and are lowered into a metal magazine in front of the Elscint vibratory bowl feeder. Metal magazines, totaling 6 to 12 in number depending upon the component size are mounted on an indexing table. A sensor is mounted to sense the component level onto the metal magazine. When the components are filled upto the level sensor, then the Elscint vibratory bowl feeder is switched off and the indexing table moves to the next stage, bringing an empty magazine at the loading station. At this point the Elscint vibratory bowl feeder starts again and stacking operation continues.

The basic machine works with electrical controls while a PLC controlled version is also available. The indexing table too can be either mechanical or pneumatically operated. The advantage of this machine is to eliminate the need of stacking of O Rings manually. With the help of this equipment, the O Rings stacking can be made an off line activity with the stacked O Rings available for usage as and when required. Similarly any component having a hole in it like a bearing ring, cage, washer etc can be stacked in this machine.



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Bowl Material

Vibratory bowls can be made out of various types of material, mild steel, stainless steel, brass, polyamide etc. Out of these, one can get the best performance from cast aluminium bowls. Bowls made of mild steel are not long lasting due to rusting and not wear resistance. Over time, their performance deteriorates drastically. Aesthetic wise too, it does not look good, even if painted. Hence, it is not recommended to use mild steel bowls. Polyamide bowls have certain advantages like machining ease and repeatability but the disadvantages are the size (small) and type (conical). Step design bowls, which provide a lot of tooling flexibility, convenience and high loading volumes are not always possible in case of polyamide bowls. These disadvantages are not there in stainless steel and cast aluminium bowls. The advantages of these types of bowls are tooling flexibility, convenience and high loading volume. Secondly, it is possible to provide irregular and complicated bowl tooling and shapes in case of stainless steel fabricated bowls. However, the disadvantage is that as they are fabricated, there is a chance of manual error while making and tooling them. If they become unwieldy or else are not properly tuned, they do not work properly, especially at certain areas. This creates problems for the customer in the long run as a lot of dead stock is required to be maintained in the bowl and secondly, there might be chances of wrongly oriented components going

forward. As against these, the advantages of using cast aluminium bowls are the ease and speed of tooling and lower cost. Plus they are modular in construction. In case the part for which they are manufactured, changes, they can be retooled for another part. However, proper coating is required for all cast aluminium bowls. Elscintane sprayable polyurethane coating is the best choice for cast aluminium and stainless steel bowls. Not only does the coating reduce the noise level in case of metallic components drastically by eliminating the metal to metal contact, but the life and performance of the bowl improves drastically. Further using a cast aluminium bowl eliminates a lot of problems of the bowl becoming unwieldy or not properly tuned.

Read more - <http://blog.elscintautomation.com/post/Bowl-Material.aspx>



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