

Elscint Automation

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Case Study – Feeding of Conical Washers

Industry - Automobile Industry

Requirements -

1. Very thin component

Orientation – Flat with concave side down

Speed / Feed Rate –30 pieces / Minute

Accessories provided –

1. Elscinthane PU coating
2. Stand
3. Linear Vibrator with singulation
4. Auto-switch off mechanism

Vibrator Model –Model 400

Description -

Feeding of very thin parts and mainly conical washers is very difficult. However, Elscint has manufactured many bowl feeders for these types of components. In this particular case, the washer has an outer diameter of 58 mm / inner diameter of 45 mm and a thickness of just 0.8 mm. Due to its conical curvature, the washers have a tendency of coming in a bunch, and it is difficult to remove one out of the bunch. Orientation too is very critical as the washer is being used in a SPM which cannot detect wrongly orientated pieces. This made it pertinent to have a bowl feeder that not only feeds correctly oriented parts consistently but also feeds them in a single row, thereby eliminating the chances of double feeding of the washers. For this, Elscint has used a cast aluminium bowl. An Elscint linear vibrator for further feeding of the washer to the assembly table is used along with an auto-switch off mechanism and singulation to release only one component at one time, and a Table type stand along with (+/- 100 mm) height adjustment and leveling screws completes the vibratory feeding system.

Further operation -

Assembly

