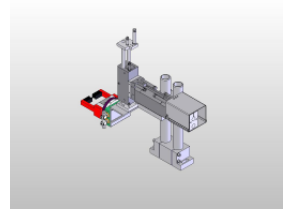


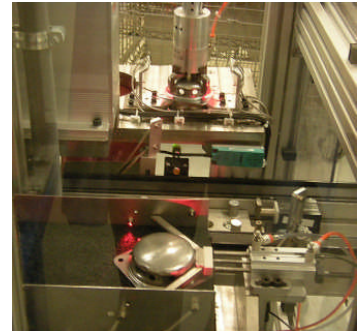
Vision Guided Programmable Tooling



Vision Guided Sortation & Orientation-

All part feeders use speed and part/package or material geometry to affect orientation generally using fixed or adjustable tooling. Parts/packages or material that are friable or fragile parts or have critical surfaces often make vision guided active tooling a better option. Programmable tooling also allows families of parts to be actively oriented or sorted out of part/package or materials flow using a single feeder without the time consuming adjustments between runs to sensors and/or mechanical tooling.

The next generation in part feeding solutions



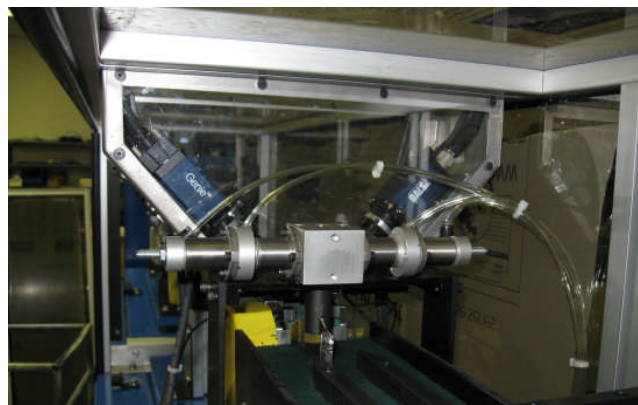
Vision Guided Sortation-Error Proofing @ assembly

FEATURES:

- Sort by any programmable variable*
- Orient w/ No Part Recirculation*
- Orient difficult part geometries.*
- Radial Orientation*
- Precision Nesting of Part Hand Off*
- Standard Vision Solutions*
- May be combined with Machine Tending Functions*

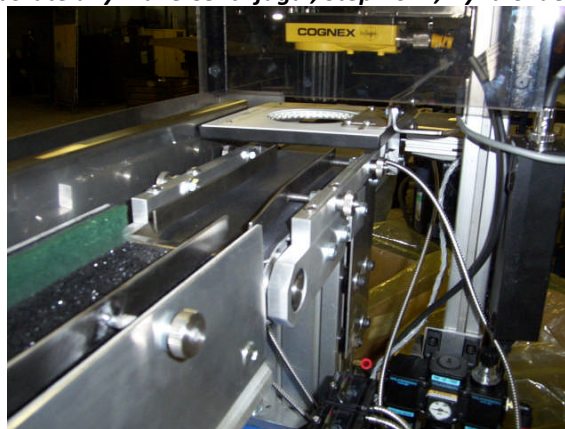
BENEFITS:

- Higher Speed without part damage*
- Programmable for rapid part sku changes.*
- Flexibility to maximize cell performance.*

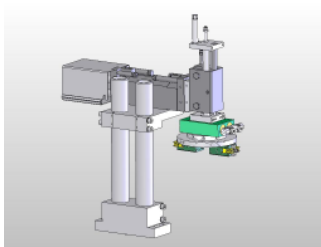


Vision Guided Selection x Color Contrast-Sort Material Flow

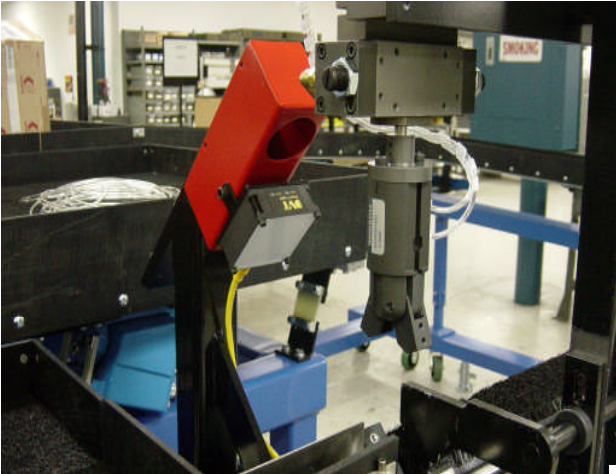
System can be designed to incorporate any make Centrifugal, Step Bowl, Dyna-Slide or Dyna-Belt Feeder.



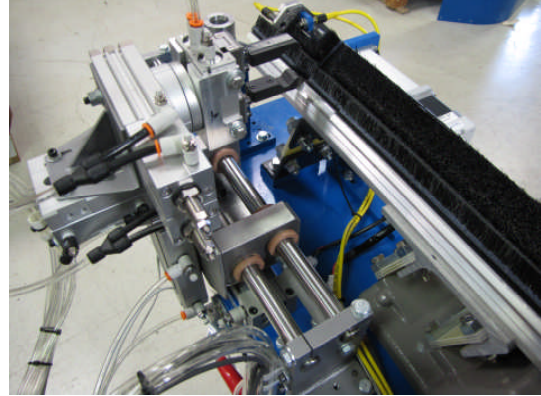
Part Feature Sortation- Controlled reorientation of incorrect part, controlled feed of correct part



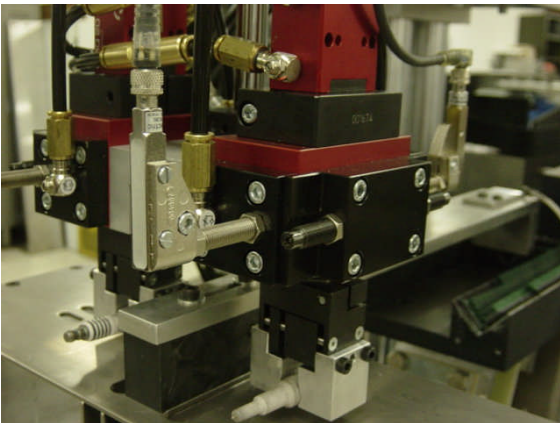
Vision Guided Orientation



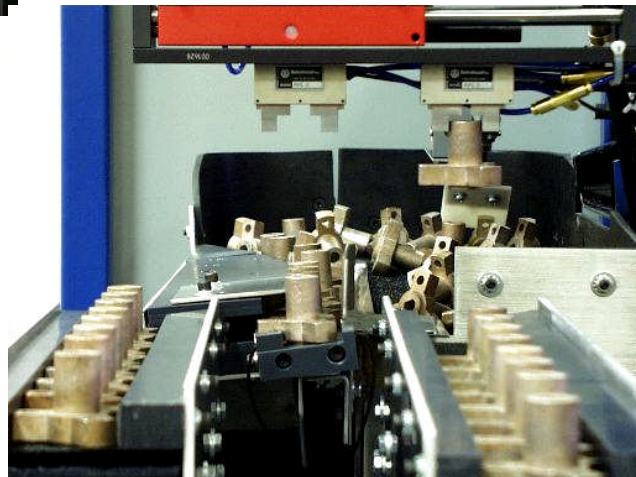
Vision Guided tooling orient parts, packages or materials.



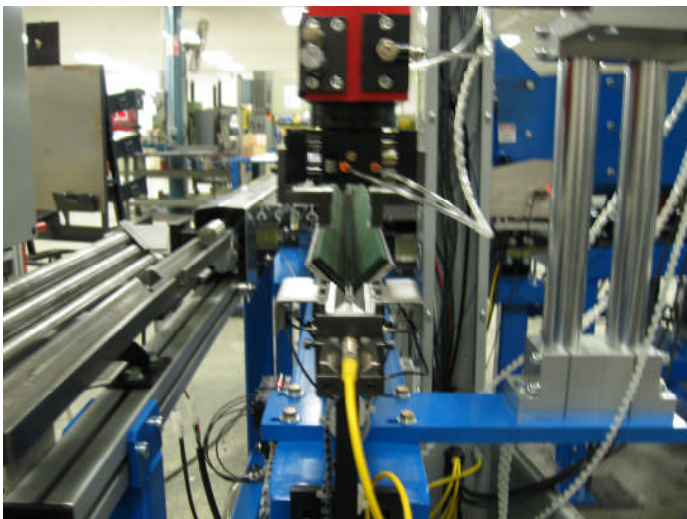
Active orientation- Defined end leading & hand off to robot



Orientation of Ceramic Spark Plug bodies @ 60 ppm using duel head rotary actuation.



High Speed Radial Orientation (Fragile ceramic part)



Part orientation to create defined end leading integrated with servo controlled lathe loader

Defined End Leading –Presentation to Robot