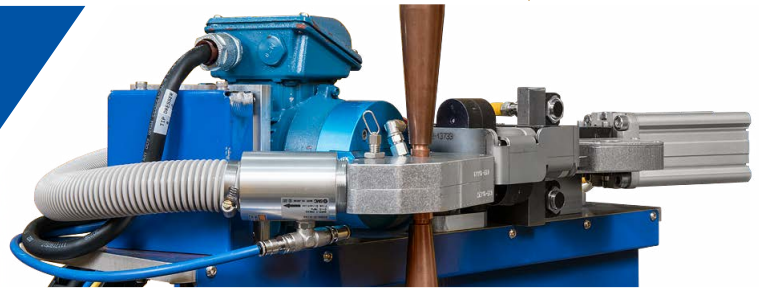


KapTec™

Cap Maintenance Systems



IMPROVE UPTIME & REDUCE MAINTENANCE COST

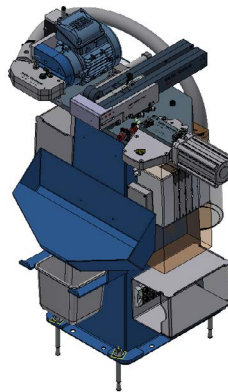
CenterLine's KapTec™ product family is designed to automate the cap servicing operations across a wide variety of applications. It is designed to dress caps and automate the cap removal and replacement process.

CenterLine is the only manufacturer of a self-contained, fully automated cap dressing and cap replacement unit for single ped or dual ped guns.

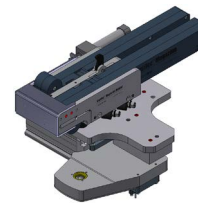
From robot carried guns to dual ped gun applications, the KapTec system is a solution for all cap servicing needs.

Compared to manual cap changes, KapTec offers improved uptime, reduced maintenance requirements, and improved electrode adapter life.

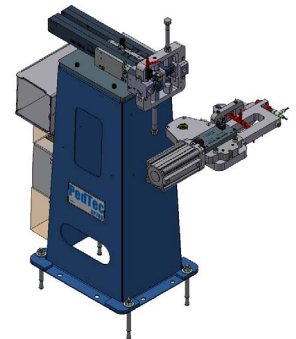
Basic Unit



Carried



Carried Lite



- Able to service angled adapters.
- Easily configured for robot mounting.
- Carried Lite saves approximately 6 kg in payload compared to other carried options on the market.

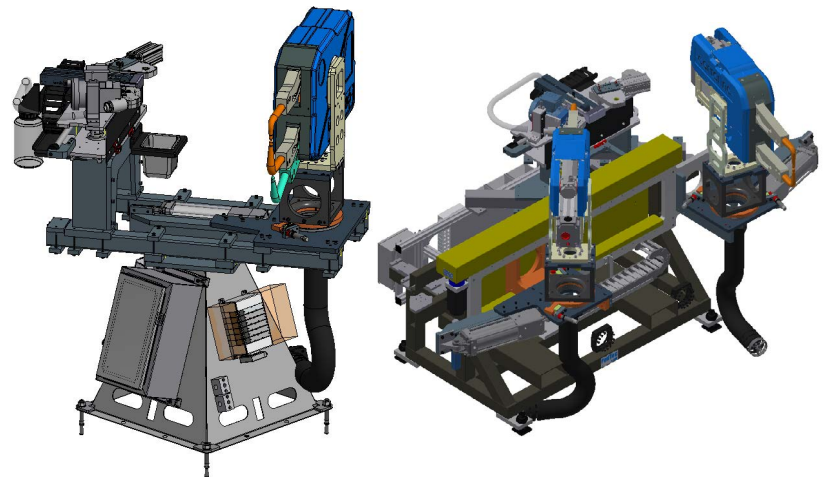
STANDARD FEATURES

- Modular design improves serviceability; core components are common across the entire KapTec product line.
- Integrated cap presence detection to verify correct cap removal and installation.
- Extracted cap collection with easy removal.
- Compact design minimizes floor space requirement.
- Available in Dresser-only configuration.
- With optional magazine cover included, caps are protected from expulsion and debris before installation onto electrode adapters.

ADVANTAGES

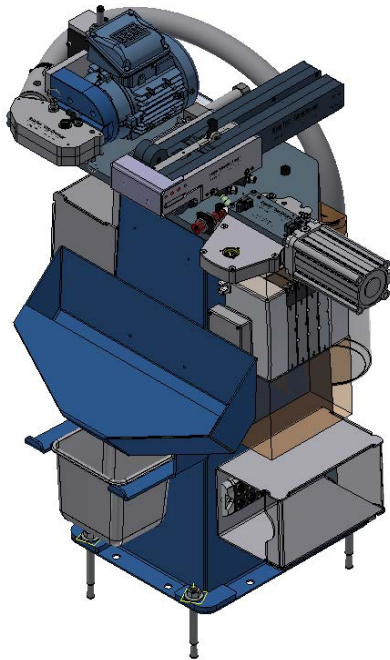
- Dress and change caps on any gun.
- Common core components minimize spare parts inventory.
- Improve machine/cell uptime.
- Minimize operator exposure to inside of cell.
- Better electrode adapter life (no manual cap removal).
- Quick refill with spare magazines.

Single Ped Gun with KapTec - Dual Ped Gun with KapTec

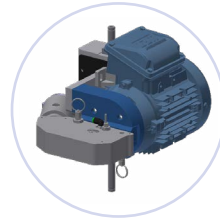


- Highly configurable for different gun geometries & compatible with a wide range of gun options (Single/Dual Ped Gun with KapTec not compatible with C-guns.).
- Modular design improves serviceability.
- Cap dress and cap change time can be buried in cycle time.
- No additional payload or cycle time required from material handling robots.
- Full, continuous position control of vertical and horizontal positions for KapTec unit.

COMMON CORE COMPONENTS



KapTec™ Basic Unit



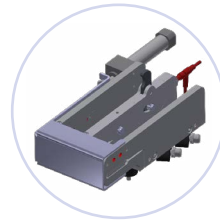
Cap Dresser with Shroud

- Toolless shroud removal and holder replacement
- Poka-yoke cutter designs available
- Integrated rotation sensor
- Low force self-equalizing design dress caps equally
- Low profile shroud accepts most adapters, from a variety of approach angles
- Integrated chip collection with large chip container



Cap Magazine

- High capacity (21 pcs of 5/8" caps, 18 pcs of 3/4" caps)
- Robust design, protected against debris ingress
- Prevents upside down caps from being loaded
- Consistent cap force, caps will not tip over or get stuck
- Common magazine design eliminates risk of installing wrong magazine for upper or lower cap



Magazine Holder (Cap Cover shown - available as an option*)

- Latch to lock magazines in place with sensor feedback
- Empty magazine detection
- Toolless magazine change
- Prevents incorrect magazine installation
- Compliant mounting assists with seating caps on adapters
- Optional Cap Cover available

*Required on KapTec Carried Unit; not available on KapTec Carried Lite



Cap Extractor

- Isolated cap removal motion (no gun intervention required)
- Integrated proximity sensors to verify proper removal cycle
- Floating extract mechanism provides compliance to remove caps more effectively

Patent: www.cntrline.com/patent

