Ink and paste cartridges: Theory of Operation

CRT-3 | Blaide product line | 17 November 2026 | Design only: nothing built or tested

The plunger is driven by the dispenser's geared motor, so the cartridge itself has no moving parts beyond the piston. Identification is a single resistor chosen so that neighbouring codes are far apart on the converter: the firmware accepts a reading within 60 counts of a code and reports anything else as unknown rather than choosing the nearest.

Design

- 3 mL barrel, 85 x 16 x 14 mm, keyed collar with one flat
- Identity resistor to ground, read through a 10 k pull-up: 1 k, 2.2 k, 4.7 k, 10 k, 22 k, 47 k, 100 k
- Each identity carries nozzle size, bead height, feed, cure temperature and time, or laser cure
- Foil pouch with desiccant; lot and use-by date on the label