



Brazing & Soldering APPLICATION DATA

No. 552 – Stone Cutting Segments



Model 120 Four Station Brazing Machine Specifications

- **Assembly:** Diamond matrix segment to iron/nickel/chrome mount. Two styles: quarry belt and narrow belt segments.
- **Induction Heat:** 3.5 kW CEIA Induction Unit: CEIA 45/900 Power Cube, CEIA Master Controller V3+, CEIA Power Head/Coil, and CEIA Optical Pyrometer.
- **Paste Filler Metal:** Fusion STK-1260-750, cadmium-free, (AWS BAg-24), corrosive, flux residue must be removed after brazing.
- **Production Rate:** 60 parts per hour, one roving operator loading part trays every hour.
- **Dimensions:** 65" X 66" welded steel frame. Induction control and water circulator mounted to frame.
- **Utilities:** Electrical 220 VAC, 3PH, 60 Hz; Control voltage 24V; Compressed air (10 CFM)
- **PLC:** Allen Bradley *CompactLogix 5370*, with Panel View color operator interface.
- **Safety Features:** Perimeter guarding on three sides of machine with safety interlocks on doors; light curtain; portable fume extractor.

Sequence:

1. Roving operator loads segments and mounts into holding trays on either side of Fanuc SR-6iA Scara robot. Trays hold 64 parts each.
2. Station 1: Robot picks mount from tray and positions it beneath applicator gun where (3) deposits of braze paste are applied and placed into fixture; robot picks segment, places on the mount, sandwiching paste.
3. Station 2: Induction coil brings assembly to brazing temperature.
4. Station 3: Air cool.
5. Station 4: Brazed assembly automatically ejected down chute.



Scara robot moves mount beneath applicator gun to accept (3) deposits of silver braze paste.



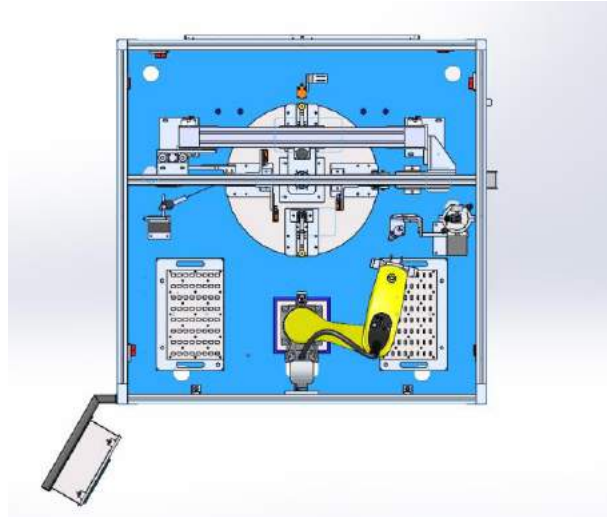
Induction coil brings silver brazing filler metal to 1305° liquidus temperature.



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See Reverse Side for More Information



Brazed segments are inserted along belts for efficient stone cutting



Segments brazed with Fusion Braze Paste average over 2,800 (lbf) shear strength, 40% stronger than parts brazed manually