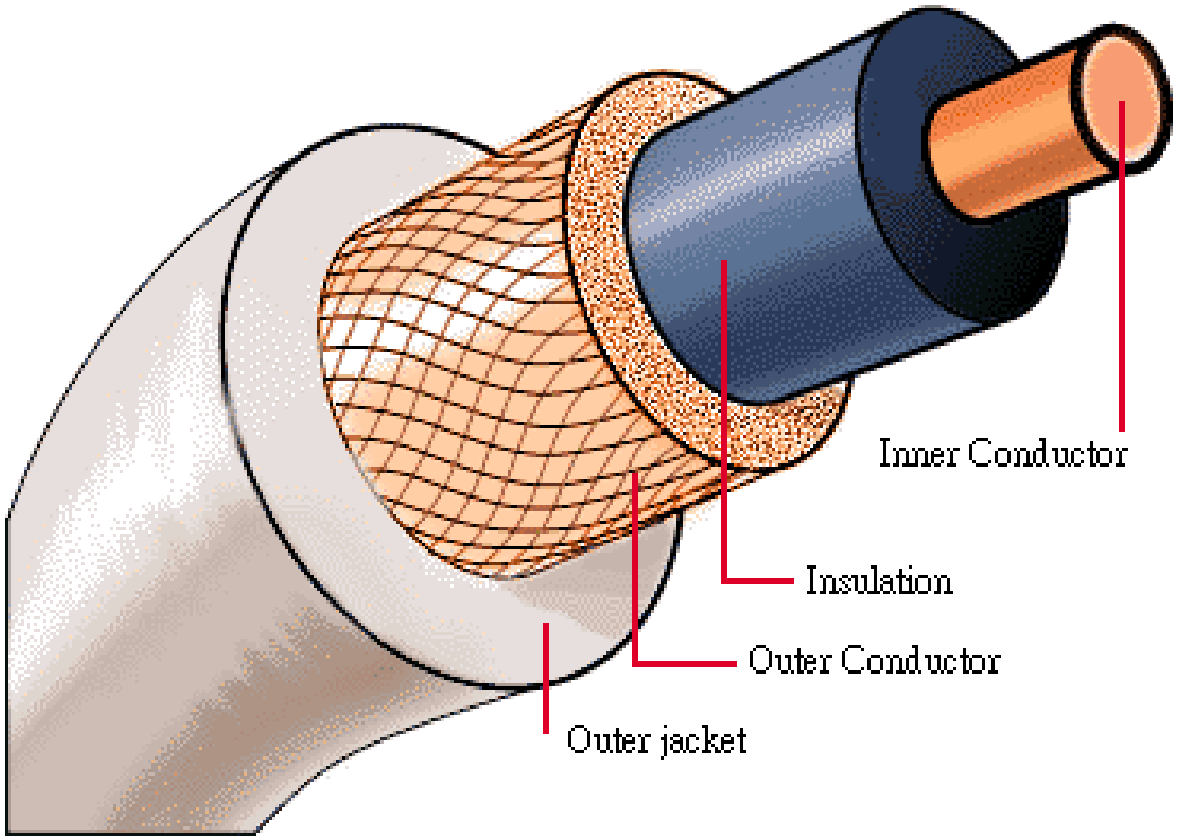
Micro Coaxial Cable Assembly Process At One Major Cable Manufacturer

WINSTRONICS

Micro Coaxial Cable



The cell concept

The process flow is divided into three main sections

- **Cable cut dress and form**
- **Cable laser cut and strip**
- **Cable alignment and soldering**

Cable cut dress and form

- Cable feed
- Cable dressing
- Cable cutting

Cable laser cut and strip

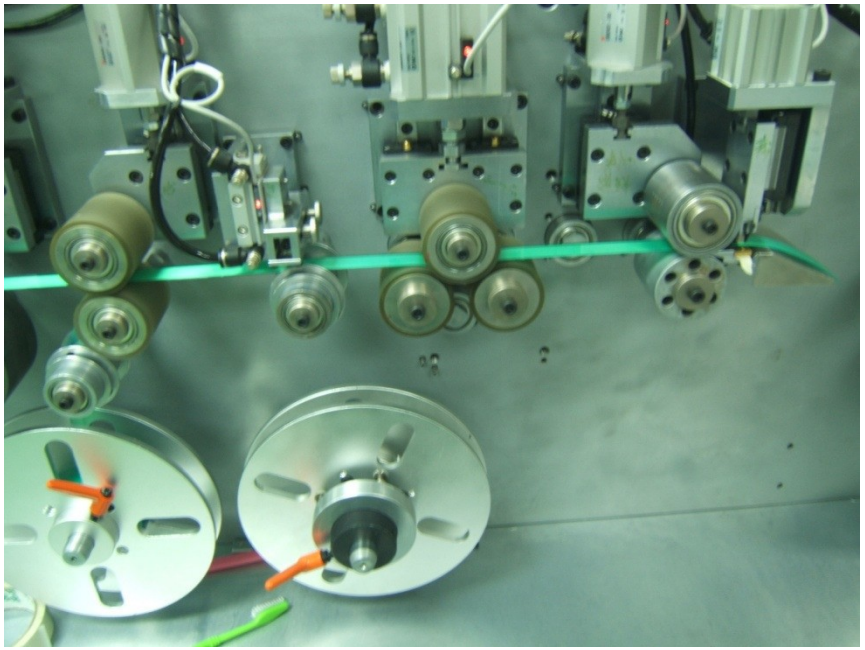
- Outer jacket CO_2 laser cut
- Outer jacket stripping
- Outer conductor YAG laser cut
- Outer conductor stripping
- Insulation CO_2 laser cut
- Insulation stripping
- Dip soldering
- Ground bar soldering
- Testing

Cable alignment and soldering

- Ground bar soldering to connector
- Inner conductor soldering to connector
- Functional test

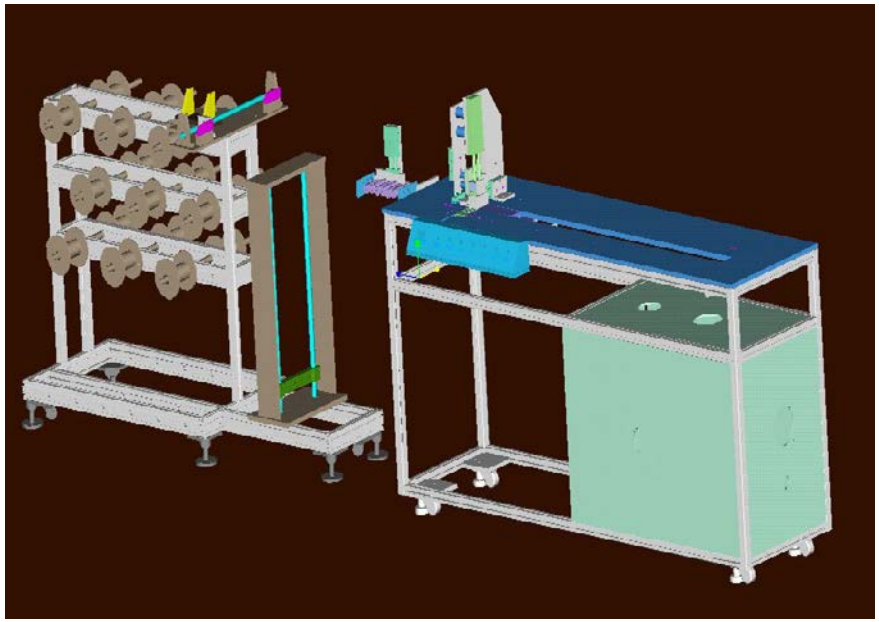
Feed cable

- **Mount the cable reel to the cable feeder, feed cable to cable dressing fixture**



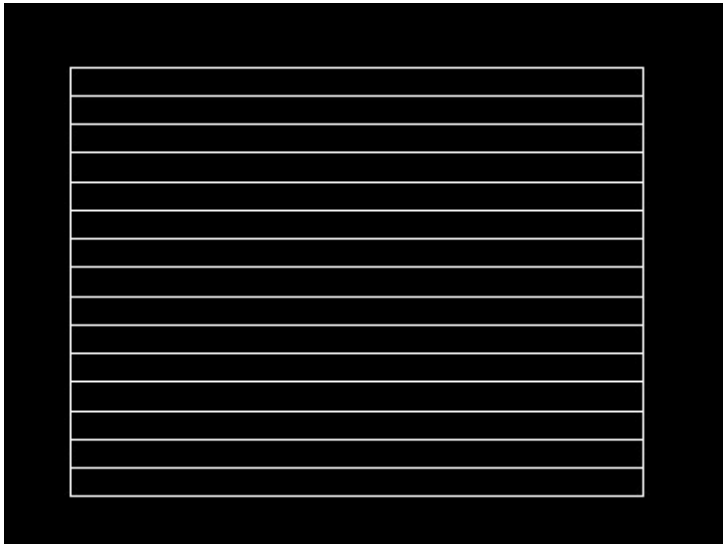
Semi-automatic Cable Feeder

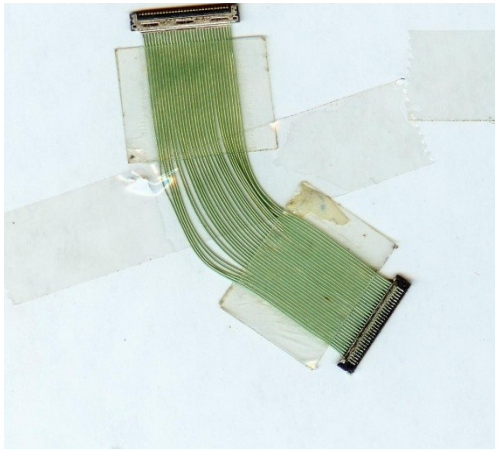
It is an aluminum profile rack. For flat cable configure range is 2-50 pins with 0.5-2mm pitch straight cable. Setup length range is 60-600mm. Stickup both end with adhesive tape. Automatic feeding speed will be 15 sec/cycle.



Cable Dressing and Cutting

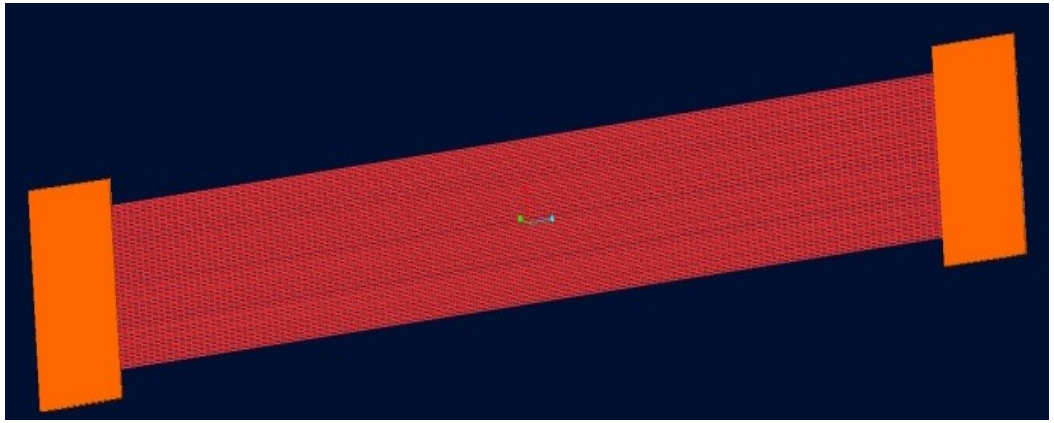
Dress the cable on the fixture and reserve extra length, fix the cable set by adhesive tape.



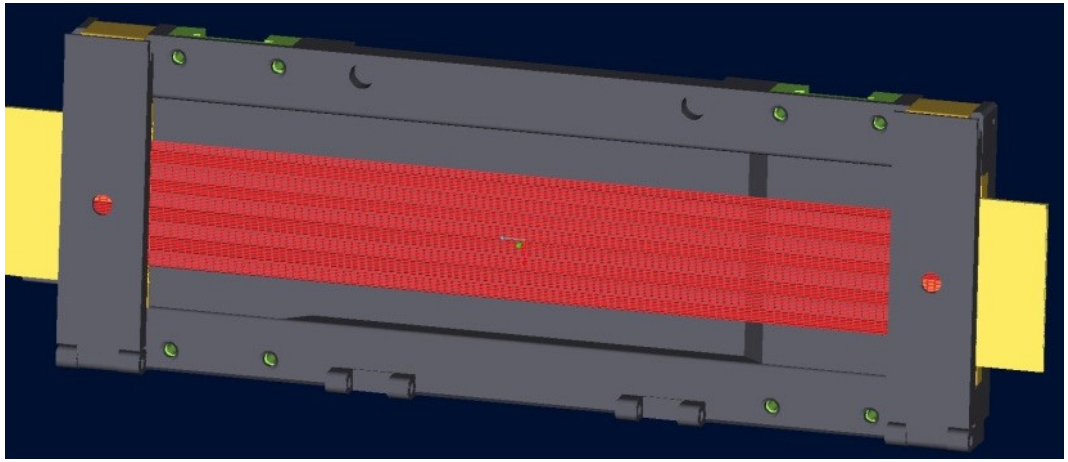


Process Fixture

Cable

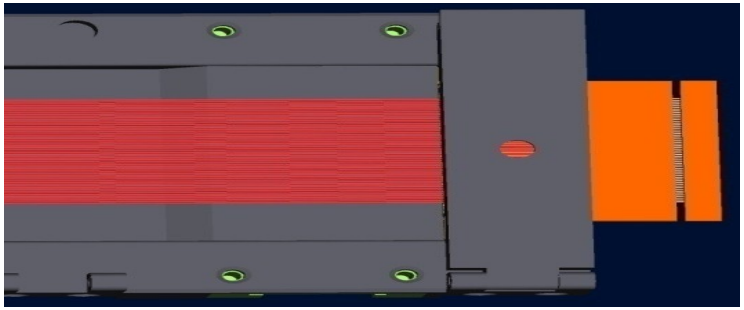


Process



Outer Jacket Cutting

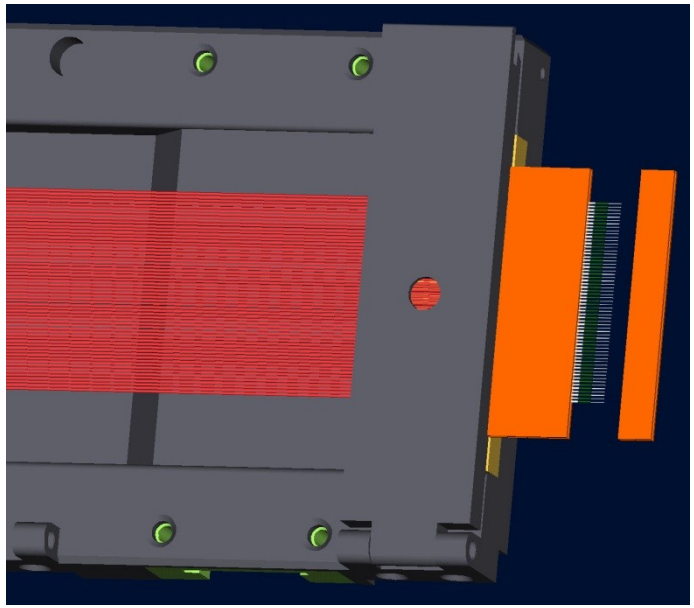
- **Cut outer jacket by CO2 laser**

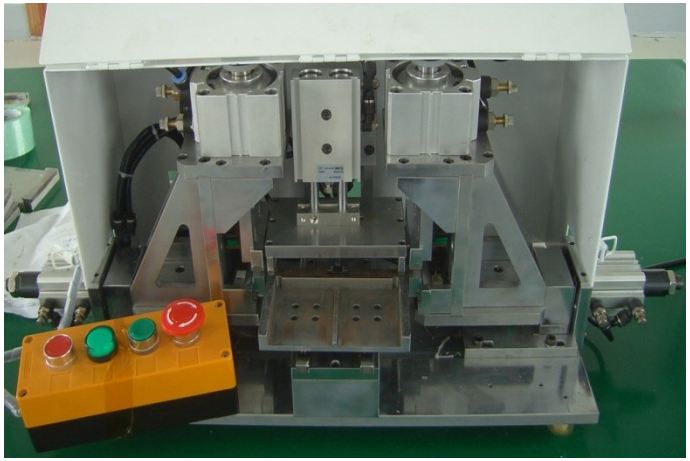


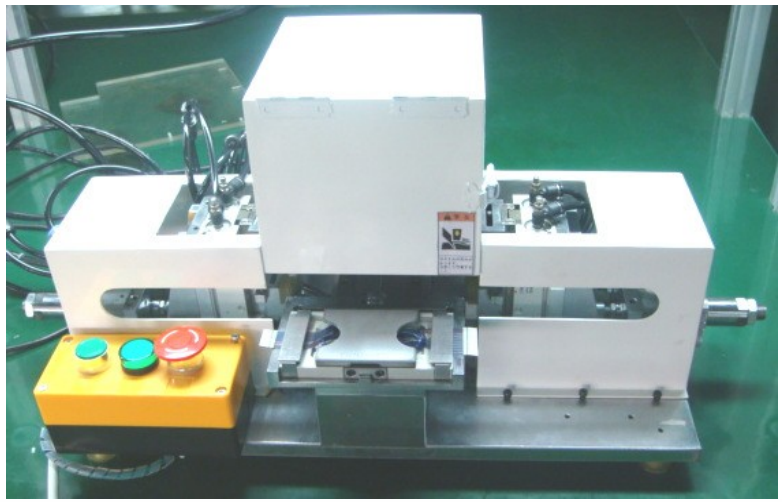
CO2 laser cutting

Outer Jacket Stripping

- **Strip the outer jacket by machine**



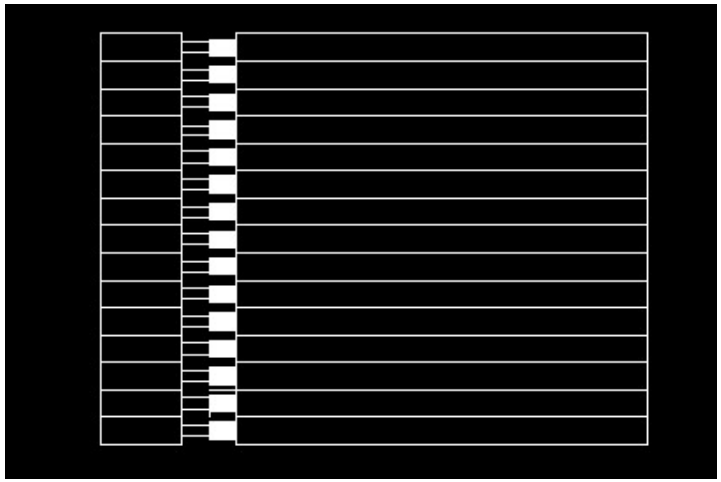




Strip from 0-20mm

Outer Conductor Cutting

- **Cut the outer conductor by YAG laser cutter**

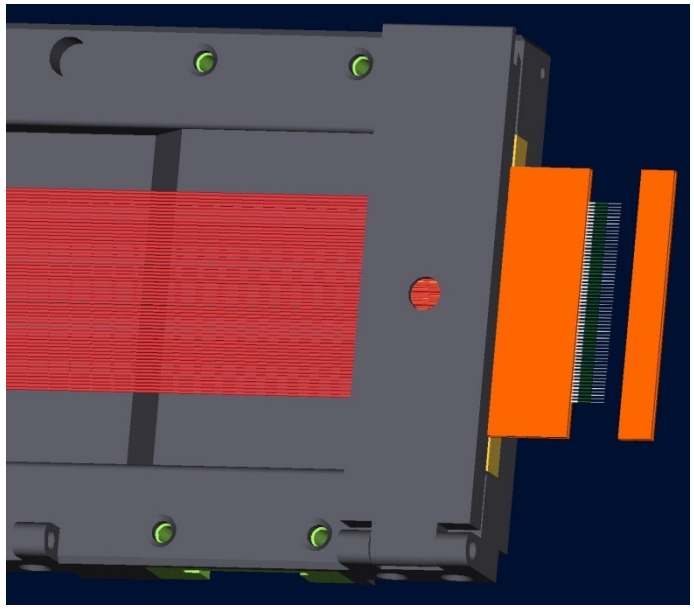


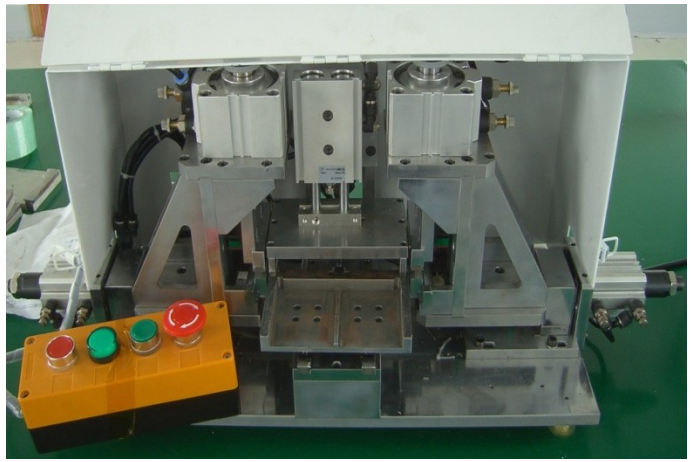
YAG cutting machine

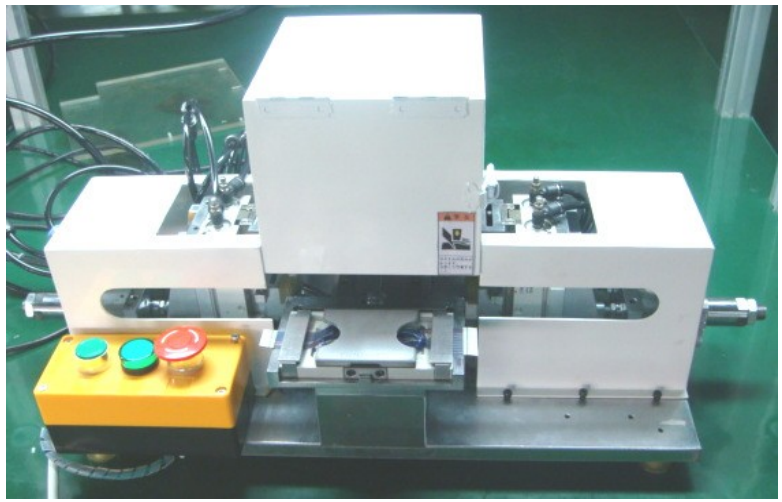
Foba LP100 YAG laser system

Outer Conductor Stripping

- **Strip the outer conductor by machine**





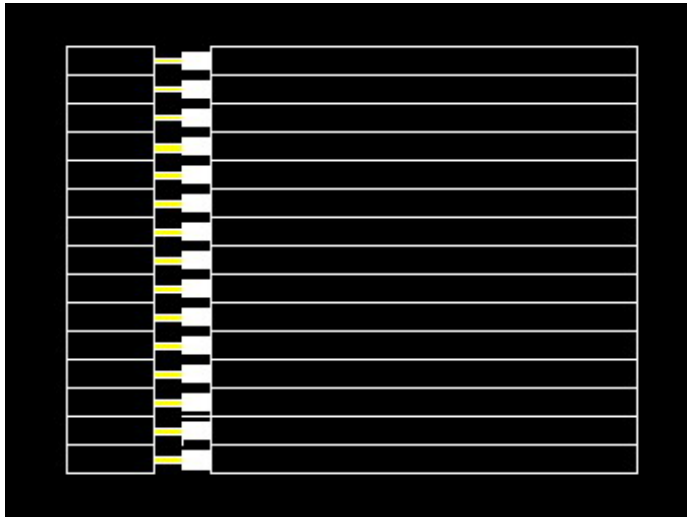


Strip from 0-20mm

Outer conductor stripping machine

Insulation Cutting

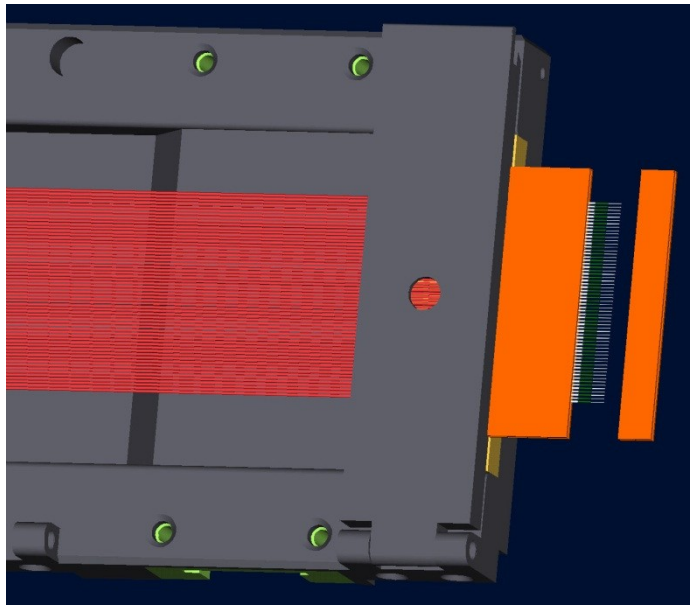
- **Cut the insulation by CO2 machine**

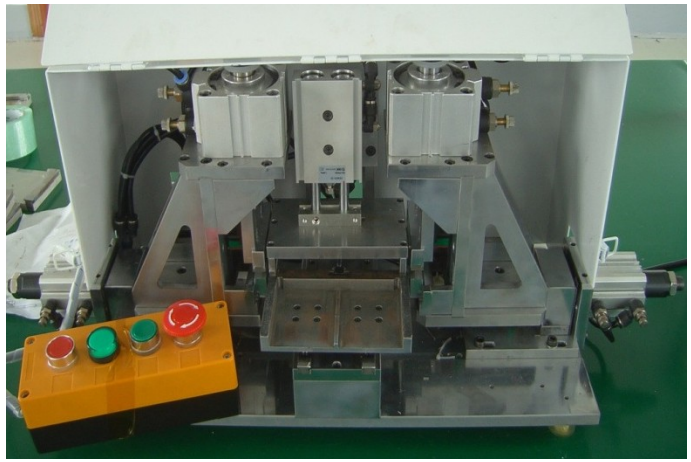


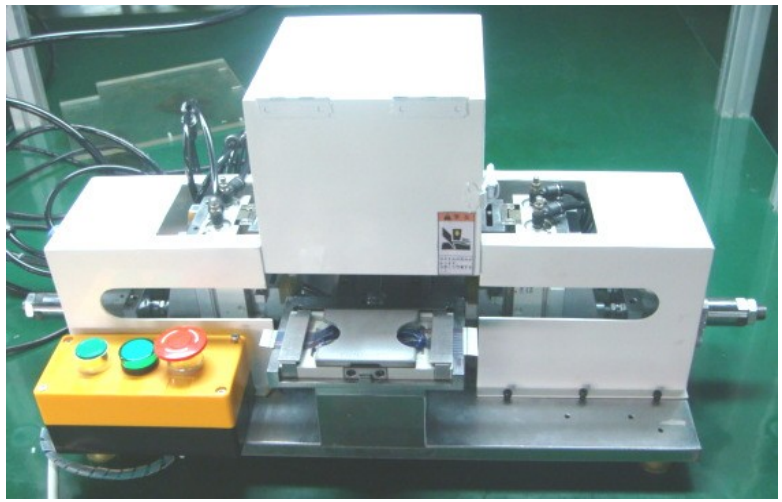
CO2 Cutting Machine

Insulation Stripping

- **Strip the insulation by machine**







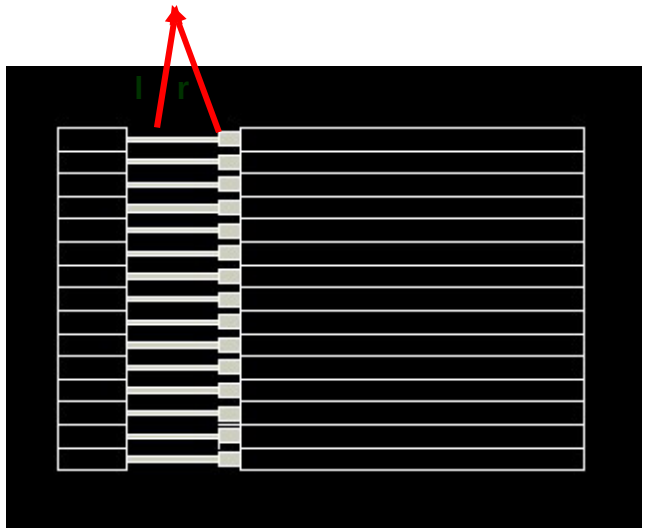
Strip length from 0-20mm
Insulation stripping machine

MCCA Production Equipment – Dual-End Braid Folding Machine

The machine will break the MCCA cable braid on the cut slot after laser cutting. It will facilitate to pull off the braid. But it will not to be used when complete to remove braid.

Dip Soldering

- Dip soldering for pre-tinning outer and inner conductors



Dip Soldering Machine

Preformed Solder and Ground-bar Assembly

Assembly the preformed solder and ground-bar on the coax cable upper side by fixture and temporary fix it by hot bar machine

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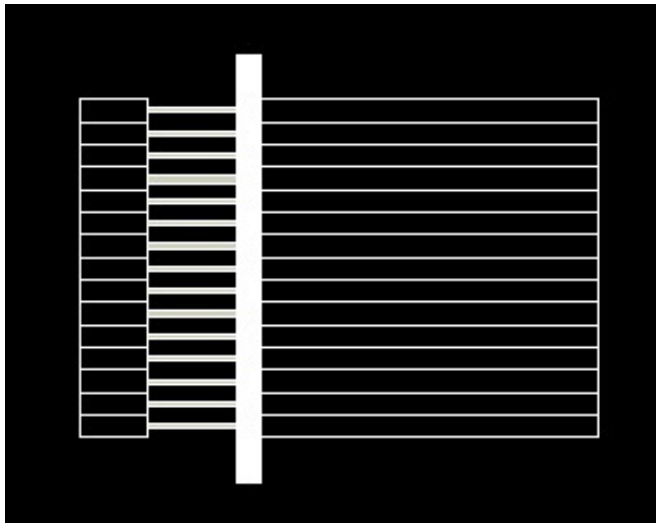
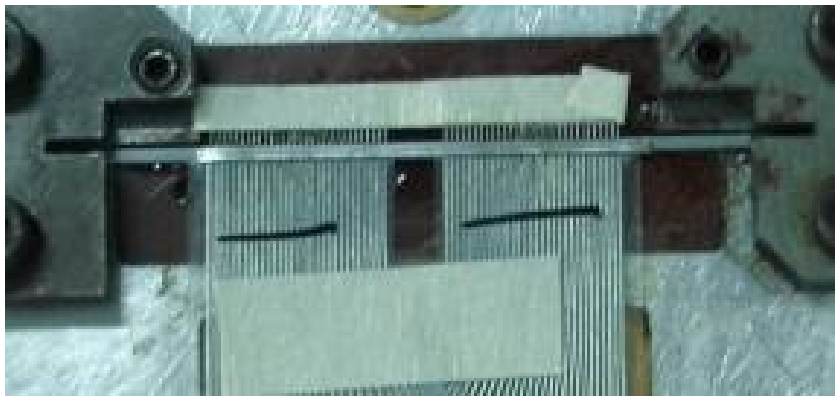
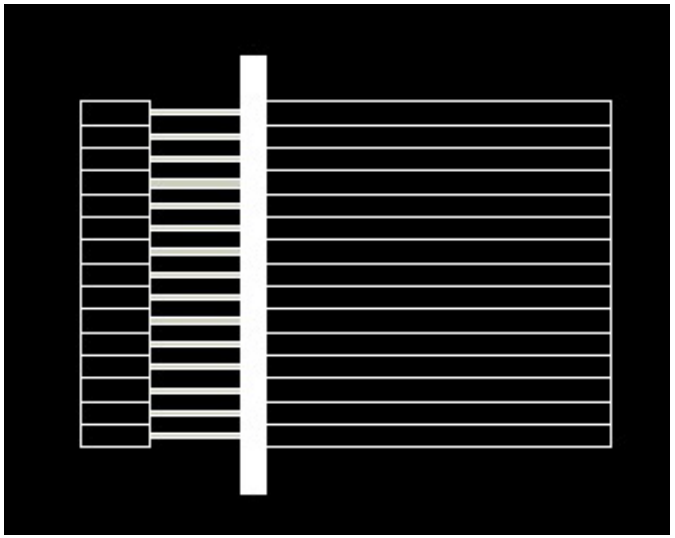




Ground-bar reflow soldering

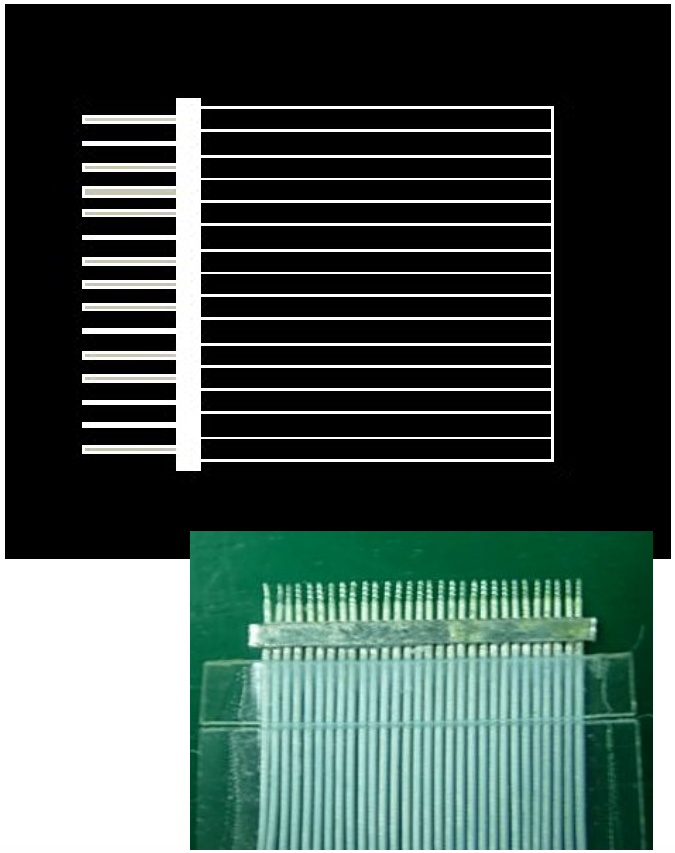
- Solder the ground-bar by hot bar reflow machine

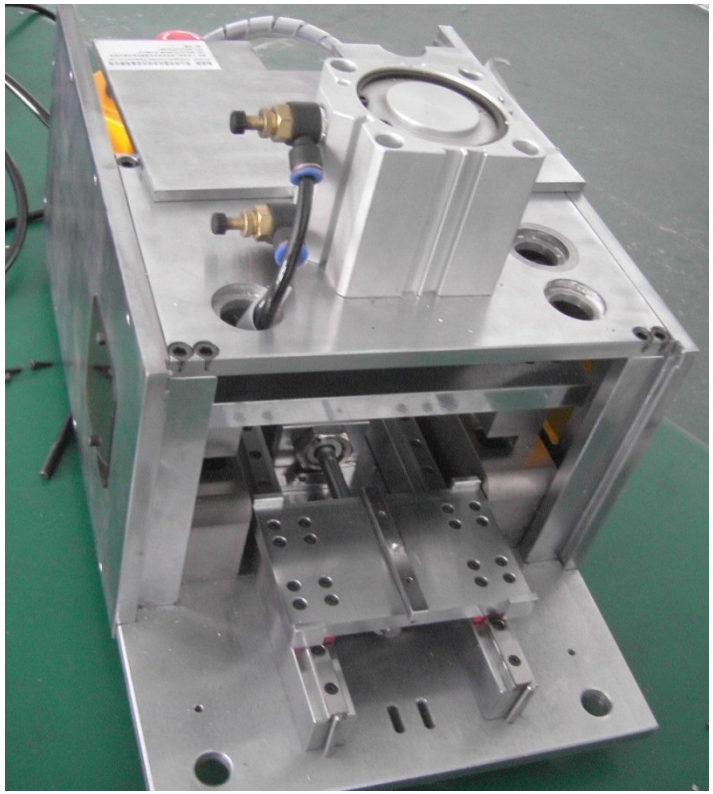


Hot bar reflow soldering system

Inner conductor and ground bar cutting

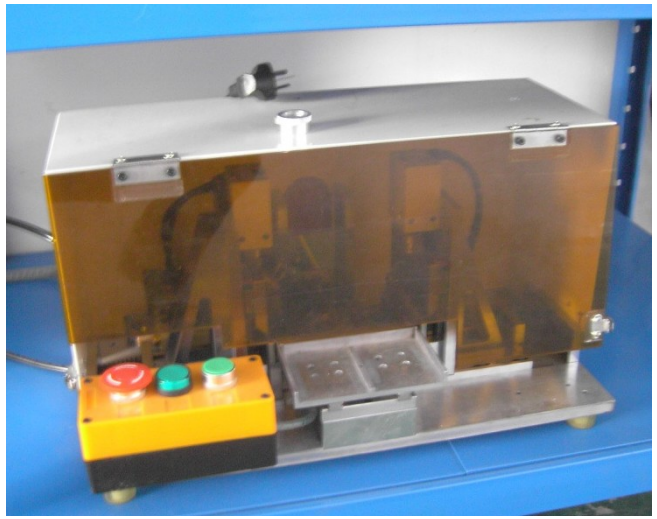
- Cut the inner conductor or ground-bar by punching machine

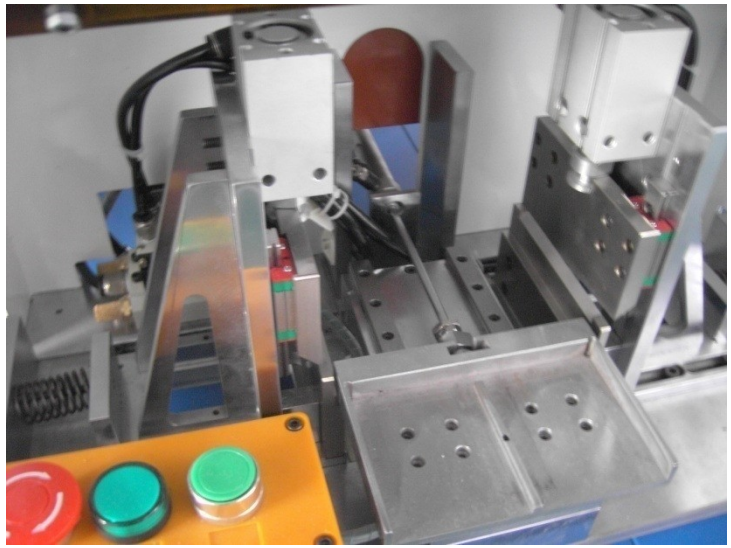




Punching Machine Model

MCCA Production Equipment – Dual-End Conduct Cuter





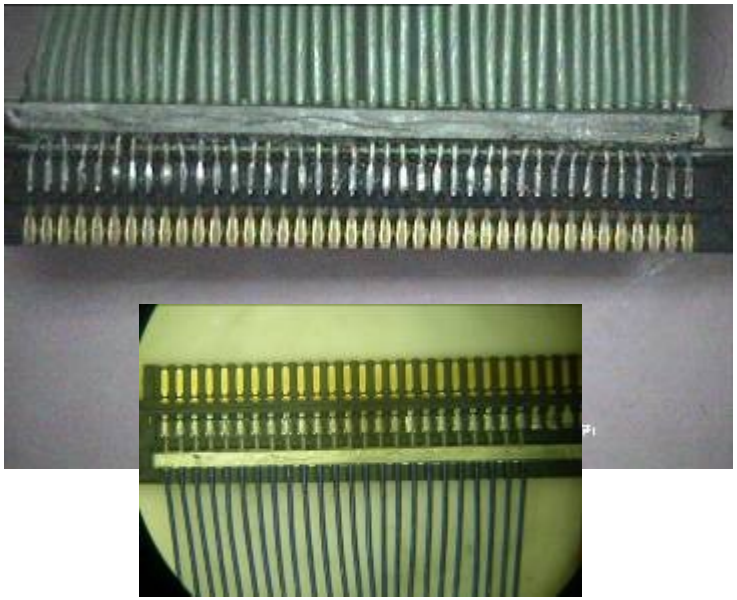
This cutter will clear off the excessive and irregular wire lead. Make cable in alignment.

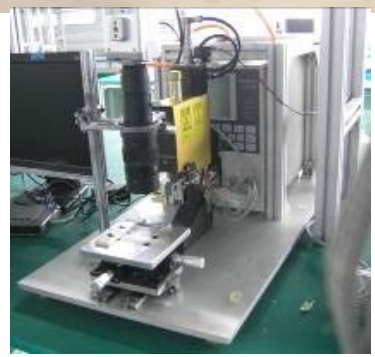
Inner Conductor Dressing

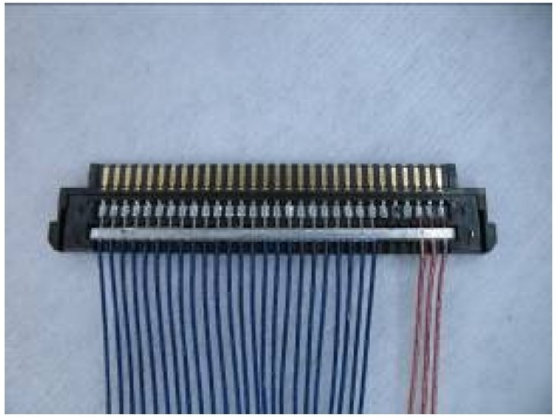
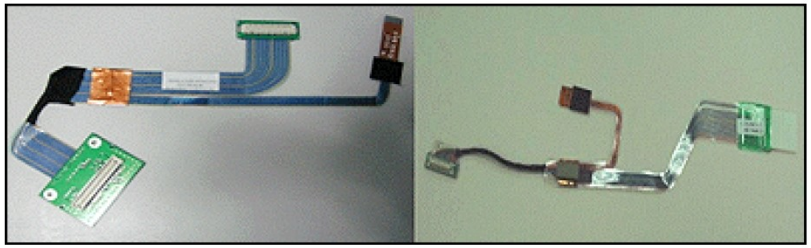
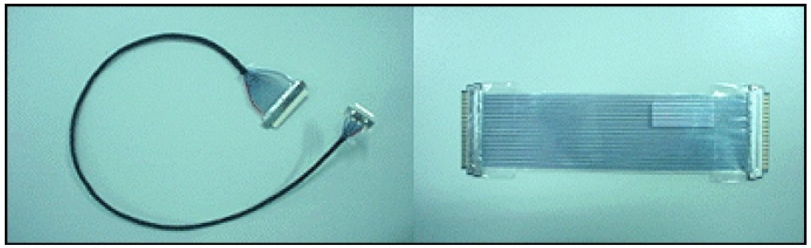
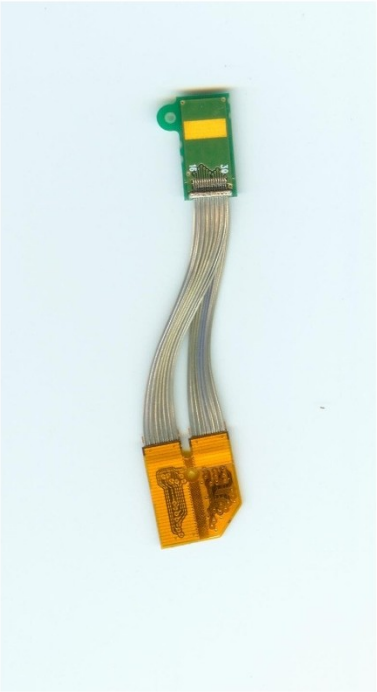
- **Dress the inner conductor before solder the conductor for cable assembly**

Inner conductor soldering to the connector

- Solder the inner conductor for the cable assembly





Hot bar reflow soldering system

MCC Samples