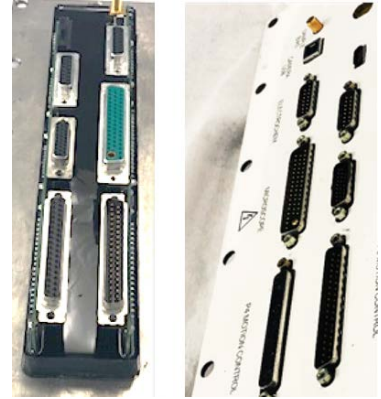


# BCE APPLICATION NOTE

## SCANNING PROBE CONTROL PANEL FEEDTHROUGH

### BACKGROUND

An application was presented to BCE in the high-resolution scanning industry for sealing a control panel. The panel had over 10 inlet and outlet ports using various DB connectors that required hermetic sealing. The BCE engineers and technician were ready for the challenge since the experience with PCB boards was similar in scope using multiple components.



### SCOPE:

Scanning Probe Control Panel Feedthrough needed to satisfy the following criteria:

- <math>50^{\circ}\text{C}</math> continuous operating temperature
- Chamber is pressurized
- Female to female connection panel mount with multiple outputs
- Pressure rating: <math>15\text{ psi}</math>
- Hydro test at atmospheric pressure
- Air test <math>15\text{ psi}</math>
- ALL TESTS PERFORMED AT ROOM TEMPERATURE



### OUTCOME

BCE designed an effective panel using BCE-Board Seal epoxy to seal without breaking the chamber or contaminating the outside. The customer saw a noticeable improvement with their resolution, particularly the imaging device. All DB connectors performed well without any residual moisture as seen in prior iterations.

BCE's Board Seal epoxy's adhesion was the strongest of any adhesive bond. The viscoelastic nature of the epoxy absorbs vibrations and allows for a better performance by reducing fatigue. Learn more about the Scanning Probe Control Panel Feedthrough here.



**BELILOVE COMPANY-ENGINEERS**

### BCE

21060 Corsair Blvd  
Hayward, CA 94545  
Phone: (510) 274-1990  
Fax: (510) 274-1999  
[www.bcemfg.com](http://www.bcemfg.com)

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