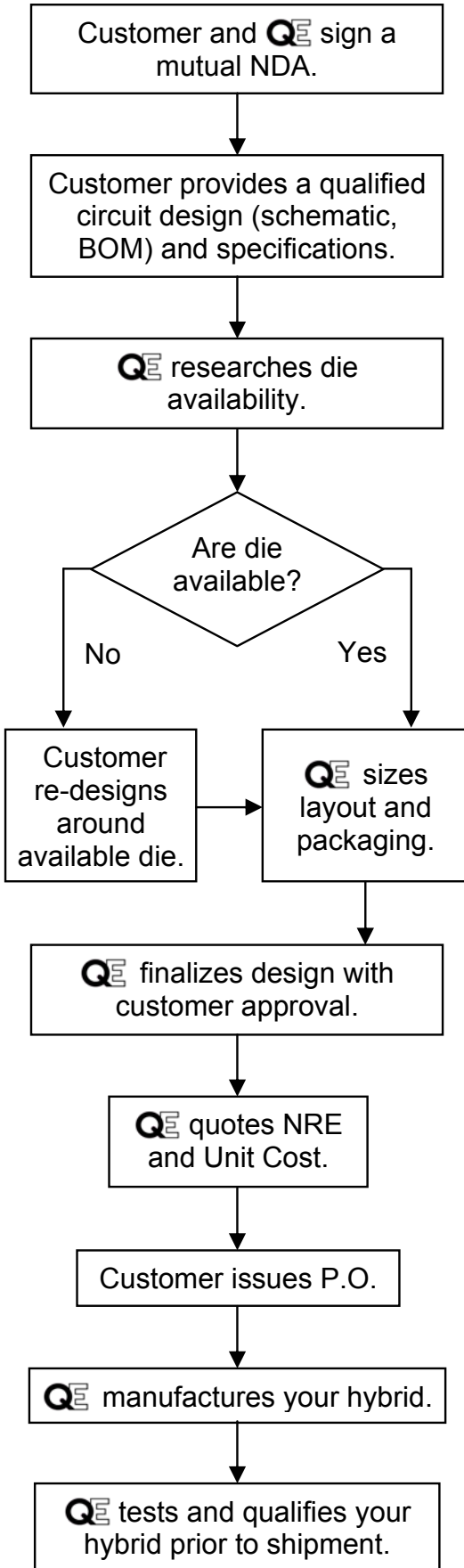


Q_E HYBRID ORDER PROCESS



Q_E makes the best hybrids for downhole conditions. Quartzdyne has built hundreds of pressure transducers with hybrid circuits made by our proprietary process. We can use this same process to build your circuit as a reliable high temperature hybrid. The flowchart shows the steps in this process.

Q_E will assist you to determine component availability. Availability of die is a critical step in building a hybrid. If die are unavailable, consider an alternative manufacturer. To maintain confidentiality Q_E cannot recommend components or die for your application.

Q_E will estimate board area required and proposes package to customer. Package selection is the second step: packages may be metal or ceramic, and may be standard, custom, or semi-custom based on the number of I/Os your design requires.

The key element is the Q_E assembly process: it insures that your hybrid provides high reliability in the high temperature downhole environment.

Q_E will qualify your custom hybrid circuit prior to shipment, just as we do for hybrids used in our pressure transducers:

- 125 hours at 225°C
- 15 thermal cycles from 25 to 225°C
- 10 metal-to-metal shocks following aging/cycling