

FIXTURE DESIGN

Repetitive shock fixture design is critical and can determine the success or failure of test result outcomes. A good fixture can determine a level of consistency and repeatability in production screening. In factory environment, a good fixture enables manufacturing team members to load, unload, and maximize throughput with ease and repeatability. ESPEC delivers experience, knowledge of the process, and technical expertise - not just the fixture, but the table too.

ESPEC has been at the forefront of delivering Repetitive Shock fixturing design worldwide for over 20 years.

Different Vibe Systems, Different Fixturing

ED (Electrodynamic) Shaker fixture design characteristics:	COMPARED TO	RS (Repetitive Shock) Vibration fixture design characteristics:
☒ Heavy		☒ Light
☒ Rigid		☒ Flexible
☒ Mimic mounting of product in normal use		☒ Mounting position irrelevant due to 6 degree of freedom vibration
☒ Carefully designed to transmit vibration with minimum alteration		☒ Carefully designed to maximize vibration transmission without radically changing the frequency content

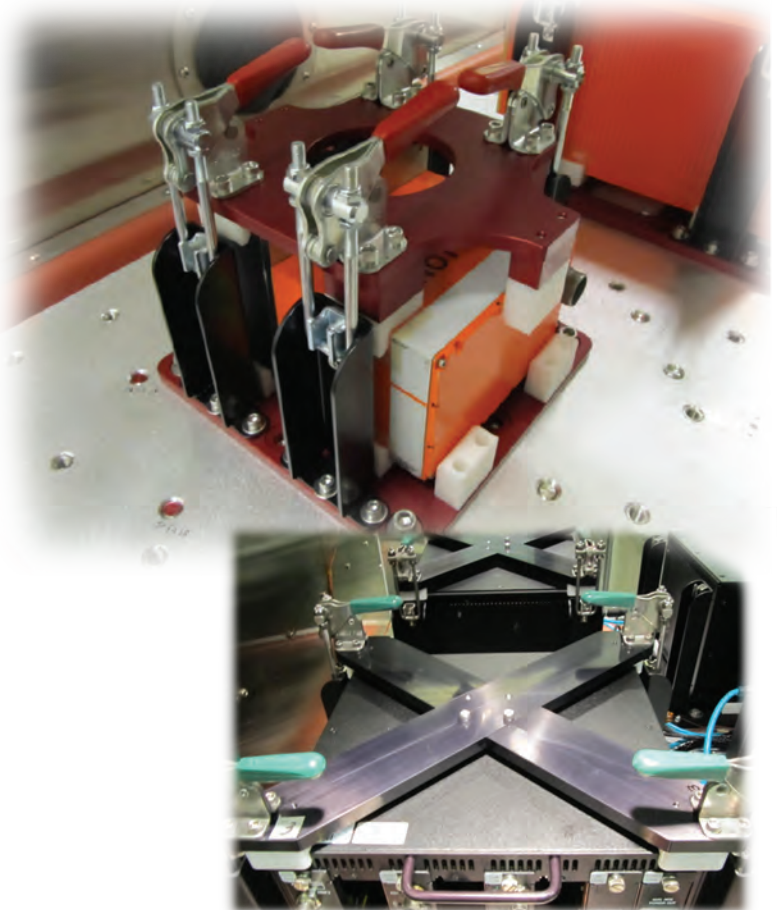
ESPEC fixturing services available for these models: OVTT, Typhoon, QFusion, HawQ, Mechanical HALT

Different Fixture Methods are Needed for HASS

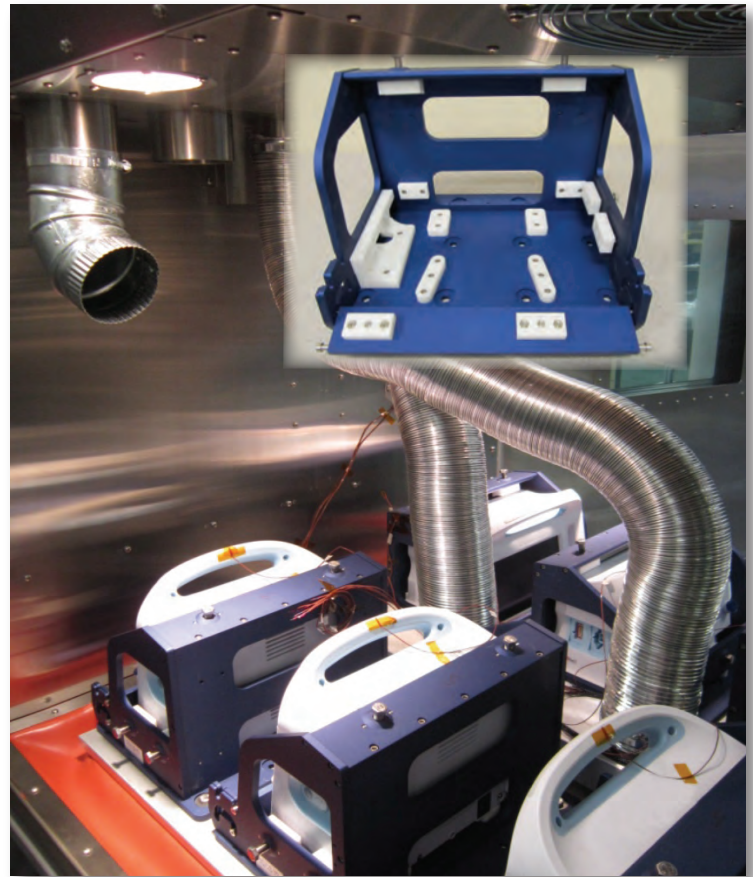
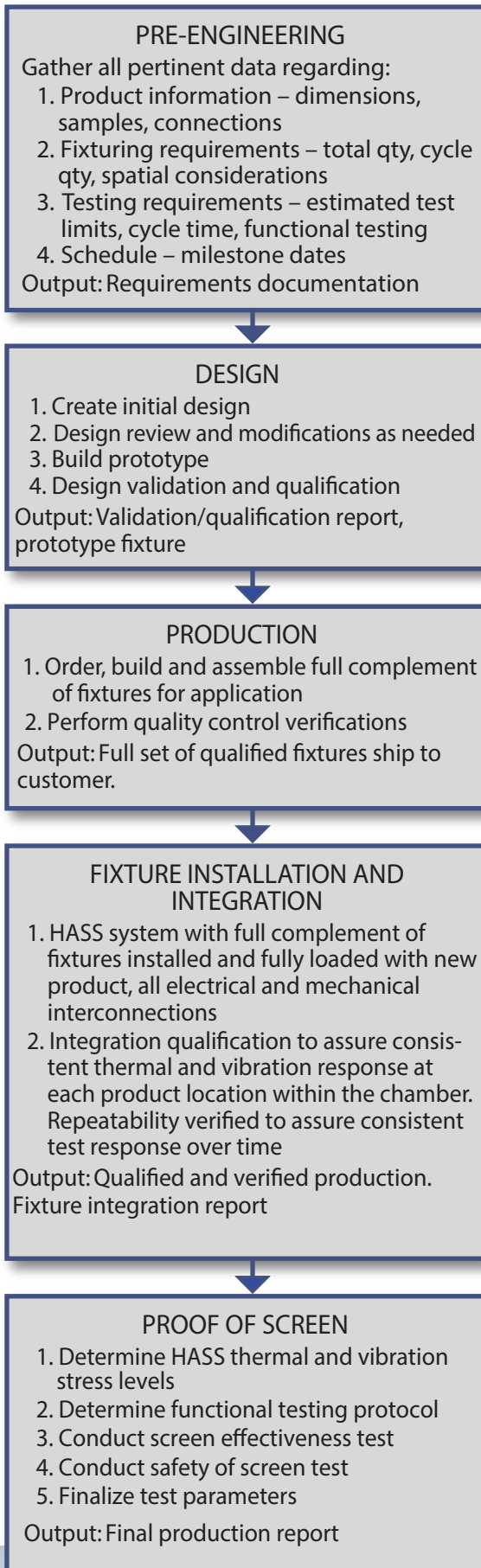
- ☒ Designed specifically to rapidly fatigue products
- ☒ Components have varying resonant frequencies
 - > Excite the resonant frequency of all components
 - Regardless of Frequency
 - Regardless of Orientation

HASS Fixture Development

- ☒ Custom Design to Ensure Consistent and Effective Screen
- ☒ Fixture Attributes
 - Vibration Transmissibility
 - Temperature Response
 - Consistent Stress Location to Location
 - Fast Product Change Over
- ☒ Fixture Qualification



Fixture Development Process



ESPEC Fixturing Deliverables

Discussion with Customer about Product and Testing requirements

- Create initial schedule and cost

Provide Fixture Concept to Customer

- Introduction pdf document showing fixture and product
- E-Drawing (3D Cad viewable model) of single fixture concept

Fixture Concept Design Review w/ Customer

- Via phone or web, discuss all details about fixture design and implementation
- Schedule Status Update
- Acquire customer signoff on acceptable fixture design

Finalize Fixture

- ESPEC Manufactured and Assembled Fixtures (prototype or production quantities)