

Pneumatic Cast Leak Testing

Market driver:

Develop a removable cast to replace the fixed plaster cast. An air pump system inflates a bladder about the critical area to be immobilized. The bladder must maintain pressure for an extended time period without re-pressurization.

Test requirement:

Test inflation bladder after assembly to assure that it will maintain an acceptable pressure level for a prolonged period of time when applied to a patient. Pressure loss over time cannot exceed a minimum level in order for the cast to perform its intended use over the duration of the recovery period.



CTS solution:

CTS designed a unique test stand to perform tests on four independent units at a time using Sentinel Blackbelt multi-port sequential test instruments. The test fixtures constrain the bladder when inflated to significantly limit and stabilize the air volume to reduce the overall test cycle time. The sensitive pressure decay tests detect very small pressure losses that can indicate that the bladder will not maintain pressure for an acceptable use time.

