

Cartridge Leak Test Machine

Series 20 Unit



The system shown leak tests cartridges used in military applications as explosive bolts. It is important that the cartridges fire correctly in the critical applications where they are used. The cartridge must therefore not take on moisture which could affect the operation in service.

The cartridges are of course completely sealed. The technique for testing sealed volumes is dosing. In this case a volume dosing technique has been used.

To increase throughput a single leak test instrument is used with twin fixtures. As one fixture is being unloaded and reloaded the other fixture is leak testing. Then under the instruments own control the test is switched to the other fixture. We call this pendulum control and the control passes between the two fixtures.

The system shown also tests two cartridges at a time further increasing the throughput.

Each fixture is based round a common design of a drawer into which the parts under test are placed. Closing the drawer activates the test and the drawer is prevented from opening whilst the test is in progress. Usually the fixture would be substantially made from anodised aluminium, but this material is hazardous when used near pyrotechnics. In this case the fixture has been manufactured from mild and stainless steels.

- Sealed cartridge
- Twin self guarding drawer fixtures
- Nolek TS600 Leak Test Instrument with pendulum control
- TQC Series 20 leak test technology
- An air leakage limit of the order of $5\text{mm}^3/\text{sec}$ at 0.6 bar absolute (60% Vacuum)



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