



Application

liquid leakage at the syringe plunger stopper under compression is essential to ensure the integrity and reliability of syringes during use. When pressure is applied to the plunger, the stopper must maintain this seal to avoid leakage, which could compromise dosage accuracy and pose risks to patient safety. If the seal fails and liquid leaks, it can result in medication loss, potentially leading to underdosing, contamination, or waste. By testing for leakage under compression, manufacturers ensure that syringes provide a secure, effective seal throughout use, preventing leakage, ensuring accurate drug delivery, and safeguarding both the medication and the patient.

Working Mechanism: SPPT-01 Syringe Positive Pressure Tightness Tester compressed the syringe plunger while the plunger nozzle is sealed and the push button of plunger is applied a sideway force to create a deflection. The test starts to check if there is leakage past the stopper.

Test Principle

The syringe is filled with water, the syringe nozzle sealed, the plunger rotated to allow the greatest downward deflection in relation to the barrel and a force applied in an attempt to induce leakage past the plunger stopper seal(s).

Procedure

The syringe is filled with water to the nominal capacity and the nozzle is sealed. A sideways force is applied to the push-button at right angles to the plunger to swing the plunger radially about the piston seal(s) with a force. The tester generates pressure on the plunger to permit the maximum deflection from the axial position. Examine the syringe for leakage of water past the plunger stopper seal(s).

Technical Features

1. PLC-controlled and 7-inch HMI touchscreen-operated
2. Precision ball lead screw
3. Variable test speed
4. Multiple fixtures available for downward force tests
5. Overload protection is available
6. Automatic returning after the test
7. Microprinter

Main Parameters

Load Cell	200N (or as required)
Test Speed	1~500mm/min
Accuracy	0.01mm
Power	110~220V

Standards: GB 15810, ISO 7886-1 Annex D (Test method for liquid leakage at syringe plunger stopper under compression)

Configuration

SPPT-01 Syringe Positive Pressure Tightness Tester, syringe fixture, weight, filament, rubber seal, power cord, fuse.

Related Models

BST-01 Ampoule Breaking Tester
MPT-01 Medical Packaing Tester
MST-01 Medical Syringe Tester
SLT-02 Syringe Leak Tester



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