

# HP-D1 Automatic Torque Tester

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Analysis & Testing Instruments



## Product Introduction

The HP-D1 Automatic Torque Tester HP-D1 is innovated to test cap torque for detecting sealing performance of packaging containers, such as plastic bottles, liquid boxes, cans, etc.



## Standards

**ASTM D2063** *Standard Test Methods for Measurement of Torque Retention for Packages with Continuous Thread Closures Using Non-Automated (Manual) Torque Testing Equipment*

**ASTM D3198** *Testing of Child-resistant Closures - Mecmesin Torque Measurement*

**ASTM D3474** *Standard Practice for Calibration and Use of Torque Meters Used in Packaging Applications*

## Working Principle

### Clamp the specimen

Place the specimen into the locking clamps and select the mode of locking force, then you can manually tighten the clamps.

### Automatic testing

Select the mode of opening force and you can start the automatic test. The automatic rotation speed is 10 rounds/min (adjustable).

### Stop testing

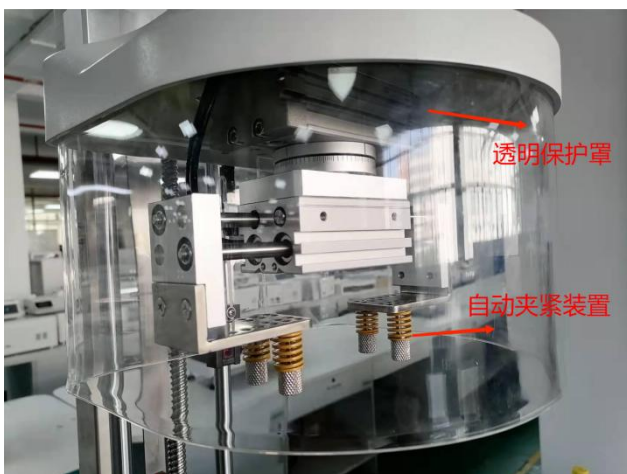
According to the experiment condition of peak judgment or time judgment, you can stop the test.

### Output test results

It can output the torque value of the locking force and the opening force, and supports the standard deviation analysis of multiple test data.

## Feature: Double Test Modes and Automatic Testing

- Protective structure: the clamping and rotating parts is equipped with a transparent protective cover, making the test process safer.



Transparent cover

Automatic clamping device

- High-precision sensor: the photoelectric sensor automatically detects the bottle opening. The torque sensor has high sensitivity, high accuracy, good stability and long worktime.



Photoelectric sensor

- Clamping and rotating device: double test modes of opening force and locking force, pneumatic control system, automatic judgment and stop, avoiding errors of manual operation.
- Locking device: the base is manually locked, and the base area is optional according to different containers.



Locking device

## Technical Specifications

Item	Parameter
Sensor	10 N·m(standard)
	20 N·m and 40 N·m(optional)
Accuracy of Torque	±0.5% of displayed value(10%-100% of the sensor range)
	±0.05% FS(0%-10% of the sensor range)
Resolution of Torque	0.0001 N·m
Automatic Rotating Speed	10 rounds/min(adjustable)
Clamp Force	Adjustable according to the tested material
Container Diameter	Φ5 mm~Φ200 mm(standard)
Container Height	20 mm ~ 410 mm
Cap Diameter	Φ5 mm ~ Φ84 mm
Unit	mN·m, N·cm, N·m, kgf·cm, kgf·cm, ozf·in, lbf·in, lbf·ft
Clamping Mode	Pneumatic
Air Source Pressure	0.7 MPa(101.5 psi)
Test Number	0 ~ 10 pcs
Power Supply	220 V 50 Hz
Machine Size	582 mm(L)×360 mm(W)×1036 mm(H)
Machine Net Weight	33 kg

## Packing List

### Standard Parts

No.	Description	Remark	Qty
1	Torque Tester	/	1 set
2	Clamping rods	/	4 pcs
3	Clamping blocks	/	1 pair
4	Φ4mm Polyurethane tube	(2m)	1

### Optional Parts

No.	Description	Qty
1	Air Compressor	1pc
2	Software	1set
3	GMP Computer System	1set



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