

# SureTorque Model ST-120S

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### For Continuous-Thread, Child-Resistant and Tamper-Evident Band Closures

The design of the ST-120S makes it ideally suited for automated release torque testing, low volume re-torquing applications in industrial environments. NEMA rated enclosure option is available for washdown/corrosive environments. The servo drive of the torque head provides torque, position and speed control profiles to be programmed. Recipe-based controls and self-centering clamp style are standard features that simplify operation and setup over the historical ST-120 model.

#### Features

- Real-time, automatic display
- Strain gauge transducer
- NIST traceable calibration
- Automatic container clamping and closure gripping – adjustable pressure
- Self-centering clamping
- Servo drive, infinite chuck rotation
- Quick-change tooling
- Color touch screen interface
- Anodized aluminum
- Optional NEMA rated enclosure
- Faster cycle times with servo drive



All SureTorque testers are configurable to test various size and shape containers. Tooling is designed for quick, tool-free changeover. Design specific tooling provides secure 360 degree gripping of cap and container. Adjustable chuck and clamp pressures, ensure appropriate cap and bottle grip. Anti-bridging, Anti tie-down, Anti-repeat dual actuation safety start control for improved operator safety. Full guard is optionally available.

#### Technical Specifications\*

Testing	
Torque Tests	Cap release test, Final application, Fatigue, Tamper evident break
Torque Range	0-88 lbf•in (0-10N•m)
Torque Transducer	Strain gauge
Accuracy	0.5% FS
Repeatability	+/- 0.2 lbf•in for one set up
Resolution	Min 0.1 lbf•in
Maximum Overload	150%
Rotation	0-60 RPM, CW and CCW, Infinite
Modes	Position, Speed or Torque control
Torque Units	d•Nm, N•m, kg•cm, kg•m, oz•in, lbf•in
Calibration	Certifiable (NIST)
Standards	Meets or exceeds NIST, ASTM, FDA, GMP
Electrical	
Control	PLC-based system
Analog Signal	16bit, 10ms acquisition
Response Time (avg)	~10ms
HMI Display	3.5" 256-Color Touch panel
Communication	RS-232/RS-485 (Ethernet optional)
Real-Time Clock	7-year typical battery backup
Utilities	
Air Source	80 PSI, 5 SCFM
Power Source	100-240VAC, ~2.5A, 50-60 Hz

\*subject to change (without notice)

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Environment	
Temperature Range	32-122°F (0-50°C)
Relative Humidity	10% to 95% (non-condensing)
Mounting	Flat surface or desktop
Container Sizes	
Height Range	1.0" (with base adapter) to 16.75"
Diameter Range	0.25" to 7.50" (with 10" platform)
Dimensions	
Dimensions	31" x 12" x 16" (HxWxD)
Weight	65 lbs
Materials of Construction	
Exterior Framework	Anodized Aluminum and Stainless Steel
Hardware	Stainless Steel
Tooling	Anodized Aluminum, Stainless Steel, Polyurethane, Acrylic, HDPE, UHMW

## Tooling and Options



Collet CT	Standard threaded cap collet
Collet CR	Child resistant cap collet
Angular Gripper	Spray type or odd shaped cap gripper
Spring Loaded	Serrated or non-threaded closures (beer cap)
Standard Clamp Set	Round container clamps (left and right)
Clamp Adapter Set	Adapts existing tooling to new design
"V" Clamp Set	Clamps for square or glass containers
Topload Chuck	Chuck housing with adjustable spring topload fixture (5-25 lbf). Use for child-resistant push-to-turn closures.
Axial Float Chuck	Chuck housing with floating mechanism. Use to minimize topload during testing for standard thread caps.
Height Base Adapter	Platform base for short containers
Locating Base Adapter	Locating base for square or round bottom containers

DAQ Option 1	Captures peak torque, time and date stamp. Windows based software, version 1.10 – 1.12.
DAQ Option 2	Captures realtime Torque vs. Time or Angle vs. Torque. Windows based software, version 3.1.
DAQ Custom	Consult factory.
TorqueIQ SPC Software	FDA 21 CFR Part 11 compliant record keeping and Statistical Process Control Software
Serial Printer	For all torque tester models. Interface: RS-232. Paper dimensions: 57.5, 69.5, or 76.0 mm (W) x 83.0 mm dia. Reliability: MTBF-180,000 hour.
Laboratory Kit	ASTM Calibration kit in protective case with 3 weights and 4 pulleys for 25 points of calibration.
Portable Kit	ASTM Calibration kit in protective case with 1 weight and 2 pulleys for 3 points of calibration.
Gold Bottle	For daily "Quick Check" of calibration, 0-20 lbf•in range.