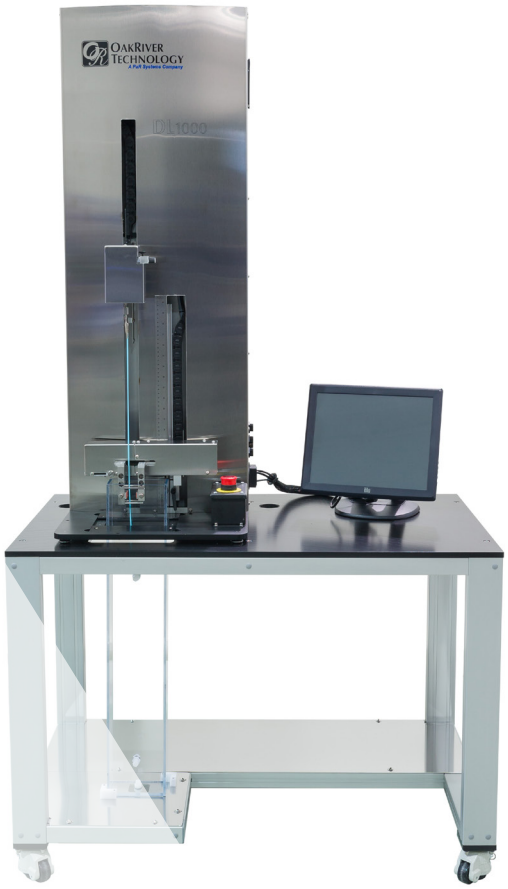

DL1000

The DL1000 provides accurate, reliable measurement of the durability and lubricity for a variety of life science devices. Engineered with robust components and controls, the DL1000 maximizes productivity and provides flexible, easy-to-use features for lab and production applications.

WHAT IS THE DL1000?

The DL1000 is a system typically used for quality control in production or for R&D teams to evaluate the durability and lubricity of coated devices. A device is manually fixtured to the system while grippers close onto the device and exert a recipe-specified, PID-controlled, horizontal force onto the device, typically within a liquid test media. The device is pulled and/or pushed through the grippers at the recipe specified speed(s), distance(s) and number of cycles. The resulting force values are plotted real-time, and the raw data is both stored in compliance with CFR 21 Part 11 and used to auto-generate a comprehensive test report with overall pass/fail indication.

BENEFITS OF THE DL1000

- Consistent testing via actively measured and controlled gripper forces
- Accommodates a wide variety of devices, including geometry changes within a device
- Secure data collection and customizable summary reports
- Quality control tool to help maximize device performance
- Easy-to-use with tool-less calibration

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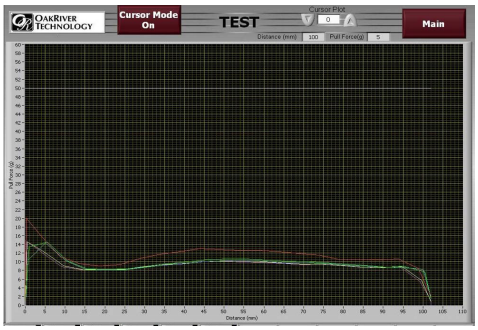

MARKET SEGMENTS

- Neurovascular
- Coronary
- Structural Heart
- Peripheral
- Endoscopy
- Urological

TECHNICAL INFORMATION

Safety Features

- 1 front-mounted E-stop
- Main power disconnect and padlock functionality

Physical Features

- Customizable and interchangeable gripper pad cassettes
- 6 interchangeable fixtures included for optimal device holding
- Removable base plate - allows for optional extended tank, heated baths, torturous path fixturing and other customizations
- 1 Ethernet port and 3 USB ports

Software Features

- Touch-screen, menu-driven PC interface
- Intuitive controls with visual cues for all key machine states
- Easy software-driven, 5-point calibration of load cells in less than 10 minutes with automatic notification and history tracking
- Highly configurable recipe setup with 'teach' functionality for position capture
- Access to historical data, with the ability to create, view, print and save logs in compliance with CFR 21 Part 11
- Live graphing of results and progress
- Direct measurement, active control, and recording of grip force
- Built-in maintenance schedule and step-by-step guide for routine PM activities
- Up to 125Hz data acquisition rate
- Detailed error messages to guide user in troubleshooting and diagnostics
- Intended for production and R&D environments with 3 access levels
- Industrial PC-based controls and components

Optional Features

- Rotational Clamp
  - Allows user to manually rotate test device every 45° providing the capability to test multiple sides without re-clamping the device
- Cart and Extended Tank
  - Cart on casters with top plate for mounting DL1000
  - Allows for the use of extended tank for elongated parts and/or extended test lengths
  - Transparent tank has built-in ports to add heated water bath circulation
  - Cart can be used with extended tank or supplied beaker

MOTION CONTROL

• Pull Speed Range	0.1cm/s - 5cm/s
• Position Repeatability	+/-0.2mm
• Pull Force Capacity	1000g (standard), 500g and 2000g (optional) 0.1%FS (+/- 1g at capacity of 1000g)
• Grip Force Range	100 - 1000g
• Grip Force Accuracy	0.2%FS (+/- 2g)
• Grip Force Stability	0.5%FS (+/- 5g)
• Gripper Height Adjustment	Manual with ruled reference in mm and in

PROCESS CAPABILITIES

• Max. Part Length	550mm *Bottom plate can be removed to extend maximum part length
• Max. Push/Pull Length	330mm
• Max. Part Diameter	19.1mm
• Min. Part Diameter	0.9mm * Smaller diameters possible with alternative grippers
• Gripper Pad Material	60 (Shore A) Durometer Silicone Rubber (alternatives available upon request)
• Max. Distance Between Open Grippers	40mm *Depends on specific cassettes and gripper pads

OPERATION

• Loading Ergonomics	Adjustable by recipe
• HMI	15” VGA Touchscreen
• Monitor Height	8.5” off of table to center of screen

ELECTRICAL/PNEUMATICS

• Voltage	120VAC
• Frequency	60Hz
• Phases	1
• Wires	3
• Full-load current	4A
• Largest load	1.9A
• SCCR	5kA
• Air pressure	90psi

MATERIALS

• Process-Exposed Materials	316 Stainless Steel, Silicone Rubber, PSA
• Compatibility with Test Media	DI water and saline (PBS)
• Debris Generation Resistance	Stainless steel and coated aluminum parts; sealed bearings (no lubrication required)

DIMENSIONS

• Height, Width, Depth	37”x 18” x 22”
• Working Height, Width, Depth	37”x 36” x 38” *Rear-mounted electrical enclosure door swing
• Reservoir Diameter	5.2”
• Reservoir Height	7.6”
• Reservoir Volume	2L
• Weight	150 lbs

INCLUDED ACCESSORIES

• Pin Vise Set	Capable of device diameters 0-4.8mm
• Hand-Tightened Chuck	Tool-less operation Capable of device diameters 1.5-12.7mm
• Alligator Clip	5/16” Jaw opening
• Gripper Pad Cassettes (2)	28.6mm gripper pad height *Other heights available upon request
• Beaker	2L Pyrex beaker for test solution containment

INCLUDED CALIBRATION KIT

• NIST-certified weights to calibrate pull force load cell and grip force load cell	1kg +/- 0.0001kg 500g +/- 0.07g 200g +/- 0.04g 50g +/- 0.01g

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