

ELDY 10/100

The electrodynamic testing systems in the ELDY family have been designed to run static, semi-static, dynamic and fatigue tests on a large variety of components and materials.
All the ELDY versions include an TDX-1 Real Time Controller, command software and force transducer.

ELDY systems use motors with voice coil technology and single phase power supply; they can be installed in test laboratories, research and development divisions and product/process control centres.

Technical specifications

- Designed to run static, semi-static, dynamic and fatigue tests
- Test frequency up to 50Hz
- Temperature control with air cooling
- Test frame with double column and electric intermediate plane for convenient sample approach
- No need for oil or compressed air
- High number of compatible accessories
- Test capacity from 1 to 100 N
- Stroke from 1 to 30 mm
- Controller TDX-1 series

ELDY electrodynamic system

OIL FREE

LOW CONSUMPTION

LOW NOISE

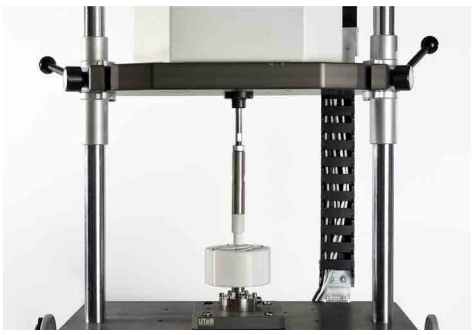
HIGH FLEXIBILITY AND CONFIGURABILITY

TABLE TOP

EASY TO USE

Applications

ELDY systems allow various types of configurations to be achieved in terms of actuator strokes and they use a simple and intuitive software interface, capable of guaranteeing rapid access to the software's functions.



Main sectors of application:
- Biomedical
- Plastics
- Electronic components and hardware
- Rubber
- 3D Prints
- Fabrics

Al fine di migliorare le prestazioni tecniche del prodotto, la società si riserva di apportare variazioni senza preavviso.
In order to improve the technical performances of the product, the company reserves the right to make any change without notice.

Systems coding

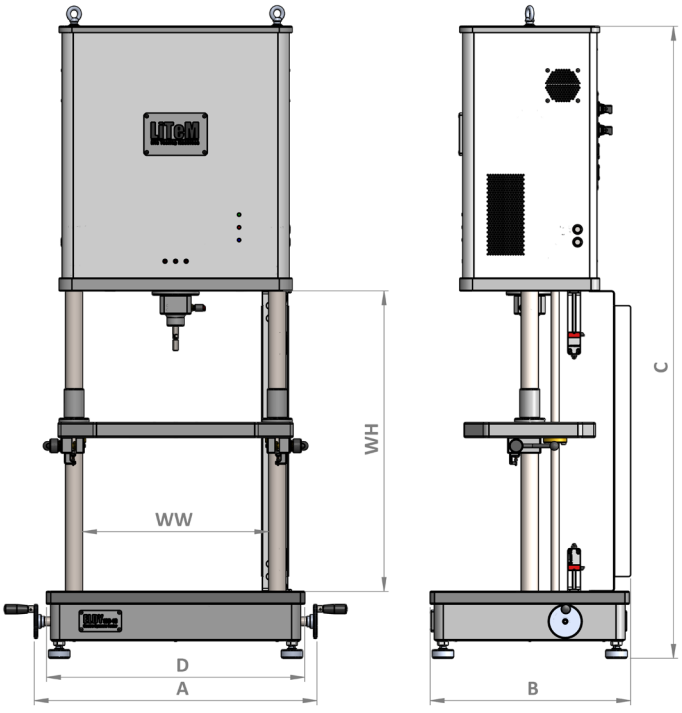
ELDY / 10 - 5 - 50

Force transducer [N]	20	50	100	250	500

Stroke [mm]	2	5	10	20	30

Force	10 N	100 N

TECHNICAL SPECIFICATIONS	eu	Electrodynamic ELDY 100N - ELDY 10N				
		S-2	S-5	S-10	S-20	S-30
Dynamic force	N	100N (ELDY 100) - 10N (ELDY 10)				
Static force	N	150N <30 seconds (ELDY 100) - 15N <30 seconds (ELDY 10)				
Continual static force		100N indefinite time (ELDY 100) - 10N indefinite time (ELDY 10)				
Test frequency	Hz	0.01 - 50				
Actuator stroke	mm	+/- 1	+/- 2.5	+/- 5	+/- 10	+/- 15
Force transducer	N	Available versions from 250N a 500N (ELDY 100) - 50N a 100N (ELDY 10)				
Sensor accuracy		1/1000 F.S.				
Actuator		Electrodynamic with voice coil technology - oil free				
Operating temperature	°C	10 - 40 °C				
Dimensions	mm	[A] 668 x [B] 474 x [C] 1493				
Work area dimensions	mm	[WW] 440 x [WH] 710				
Weight	Kg	150				
Power supply		AC 110-240V 50-60Hz				



Kit and Accessories

Components included in the kit

COMPONENT DESCRIPTION
ELDY frame with LVC actuator
TDX-1 controller
SX Software Suite
PC, monitor 27", mouse, keyboard
Force transducer with top mounting plate
Base interface plate
Sensor, power supply, connection cables
User manual, calibration reports
1 day of distance training or at the LiTeM site

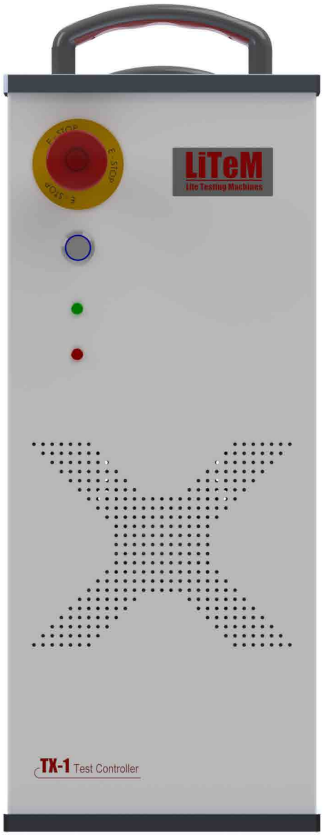
Available accessories

CODE	COMPONENT
A-TS-300	Base with T-Slot grooves 300x250
A-CP-10	Compression test plates
A-AV-10	Quick connection couplings
A-MG	Manual clamps
A-SC-100	Safety cage type A-SC-100

*Specify the stroke of the actuator in the machine code

NOTE: The performance of the machine shown in the table may depend on the test specifications and characteristics of the test sample.

Controller & Software



TDX-1 Controller

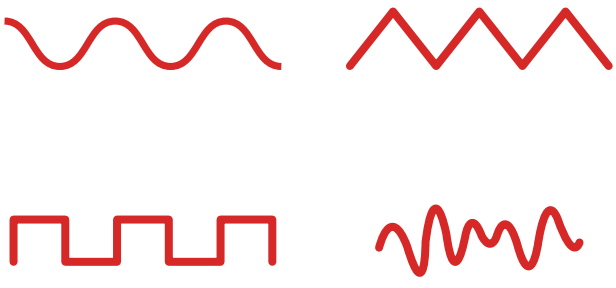
The RTC controllers are perfect control systems for static, dynamic and fatigue testing.
The control electronics consists of a processor with a Real Time operating system and high-speed FPGA board for acquiring signals coming from sensors and for the closure of the PID control loop for managing safety limits. The driver for the voice coil motor is integrated.
The integrated Real Time Processor generates various wave forms applied by the connected actuator.

TDX-1 Controller - Datalogger

The TDX-1 controller can be used as a data logger with 4 +/- 10V input channels; this function requires the activation of the WAVE MONITOR Tool software.

Available Wave Forms

- In load or displacement ramp with settable ramp speed rate
- Cyclical tests with constant amplitude with sinusoidal/triangular/square waves
- Variable amplitude tests with user defined profile or importable from an external text or excel file - Requires the activation of the Tool *PROFILE EDITOR* (software licence).

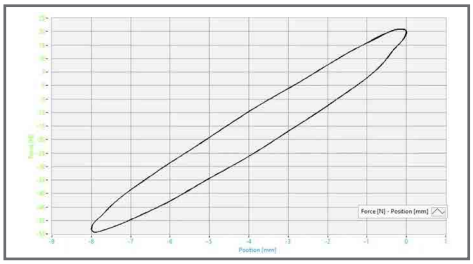


Types of tests and application fields

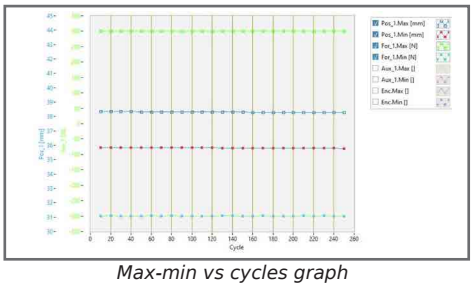
1. STATIC YIELD/FAILURE TESTING
2. RIGIDITY TESTING
3. DYNAMIC TESTING
4. CONSTANT AMPLITUDE FATIGUE TESTING
5. CONSTANT AMPLITUDE BLOCK FATIGUE TESTING
6. VARIABLE AMPLITUDE FATIGUE TESTING
7. REPRODUCTION OF LOAD CURVES



Command panel window



XY Graph



Max-min vs cycles graph

TECHNICAL SPECIFICATIONS	
Description	**ELDY Electrodynamic System**
TDX-1 Real Time Controller	Yes
Force Channel (control channel)	Input +/-10V, 16 bit
Displacement Channel (control channel)	Input +/-10V, 16 bit
Auxiliary Channel (control channel)	Input +/-10V, 16 bit
Incremental Encoder (control channel)	Incremental
PID output voltage	+/-10V
PID Loop Control Frequency Standard	1000 Hz
Safety limits	Settable by operator
Panel emergency stop	Yes
Remote emergency stop	Yes
4 analog channels in synchronous reading	Can be activated with WAVE MONITOR software licence
Power supply	AC 110-240V 50-60 Hz

Software Tool - WAVE MONITOR

The WAVE MONITOR software tool allows you to have a further four analog channels available with reading-only function. These channels can be acquired and registered by the software synchronously with the other command channels (force, displacement, aux and encoder).

TUTORIAL VIDEO

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