



Our Main Products

Website: www.ucandyna.com E-mail: ucandyna@ms36.hinet.net

Rotor less Rheometer Oscillating Disk Rheometer Foam Pressure Rheometer Mooney Viscometer Tensile Strength Tester
Tyre Plunger Tester Carbon Black Dispersion Tester Dynamic Testing System Fatigue Tester Others for Rubber/Plastic Testing

UD-3800

►► Dynamic Fatigue Tester



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The standard model **UD-3800** consists of one main testing unit, one unit of servo hydraulic power p

A. Frame Structure of main testing unit

- Crosshead moveable range : 700mm.
- The upper crosshead is fitted with hydraulic power unclamping interlock.
- Crosshead stiffness : ≥ 380 KN/mm.

B. Electro-Hydraulic Servo Actuator

- Capacity : 1000kgf.
- Stroke : ± 50 mm
- Frequency: 1~20Hz
- Servo-Valve :
 - Rated flowrate : 38 L/min
 - Rated pressure : 210 Kg/cm² (21 Mpa)
 - Band width : ≥ 50 Hz
 - Resolution : $\leq 0.5\%$
- Displacement Sensor : LVDT (LVDT-Built-In)
 - DC Type.
 - Non-linearity : 0.25% F.S.
 - Stroke : ± 50 mm
- Loadcell
 - Fatigue type loadcell.
 - Capacity : 1000kgf.
 - Calibration error : $\pm 1\%$.

F. LVDT (Displacement Sensor)

- all-in one direct analog output (0-10V).
- Absolute non-contacting transducer.
- Improved non-linearity , improved S/N ratio reduced power consumption.
- Easy to connect.(screw type connector)
- Wide temperature operating range.
- Shock and vibration resistant.
- Servo Controller for Hydraulic, Pneumatic and Electric Systems.
- Latest Modern Control Theory.

C. Power Package

- Motor : 3 phase, 220V, 10Hp
- Pump :
 - Pressure : 210Kg/ cm²
 - Flow : 45L/min.
- Oil Filter : 5 μ m.
- Provide over heated protection and alarm for shortage of oil.
- Accumulator: Pressure end 5L and servo-valve 1L.
- Cooler : 1 set of water/air dual cyclical cooler.

D. Grip: 1 set of standard grip.

E. Data Acquisition System

- Load cell amplification : 10 times , 5 times, 2 times, 1 times. It is tunable by operator.
- A/D Converter
 - Resolution : 16 Bits.
 - Non-Linearity : ± 3 LSB.
 - Bandwidth : 200KHz
- D/A Converter
 - Resolution : 12 Bits
 - Accuracy: ± 1 bit.
 - Bandwidth : 25 KHz
- High input impedance $\geq 10^{10} \Omega // 6\text{pf}$

- User-oriented & Intelligent controller.
- Real Time Self-Tuning.
- Robust & Adaptive Control against parameter changes in plant.
- Cascaded Integration- zero Steady State Error.
- Higher Response-Acceleration Feedforward.
- Maintenance free.
- 32bit DSP High-Speed Processing.
- Response frequency > 3KHz.

age, and one unit of control and data analysis equipped with one compatible computer.

G. Control Frequency Source

- a. Sampling Clock (internal) :
 - (a) Frequency: 50MHz
 - (b) Accuracy: ± 50 ppm
- b. External Clock Input:
 - (a) Frequency: 0.1Hz ~ 50MHz
 - (b) Amplitude: TTL
- c. Analog Output:
 - (a) Number of Channels: 1
 - (b) Vertical Resolution: 12 bits
 - (c) Accumulator: 40 bits
- d. Frequency Range :
 - (a) Arb : DC ~ 2MHz
 - (b) Sine : DC ~ 20MHz
 - (c) Square : DC ~ 20MHz
- e. Frequency Resolution : 1mHz
- f. Impedance : 50ohm (Nominal)
- g. Amplitude : Range : 100mV to 10Vpp into 50ohm.
- h. Offset : Range : 0 ~ ± 5 V into 50ohm.
- i. SYNC Output : Level : TTL.
- j. Marker Output : Level : TTL.
- k. Pulse Width : 10 sample clock period.
- l. Trigger Input : Level : TTL.
- m. Min Pulse Width : 20ns.
- n. Response : Rising edge.
- o. Built-in Waveforms Library Sine, Triangle, Square, Pulse, Ramp.
- p. Waveform Memory : Size : 4 Meg bytes.
- q. Sine Spectral Purity :
 - (a) DC ~ 1MHz : -50dBc
 - (b) 1MHz ~ 10MHz : -40dBc
 - (c) 10MHz ~ 20MHz : -30dBc
- r. Filters: 20MHz, 9-pole elliptic
- s. Square Wave, Pulse : Rise/Fall time: <20 ns, 10% to 90% of amplitude.

Fatigue Tester

H. Software functions

- Windows Base fit user friendly operation environment.
- The test result can be measured and analyzed in real-time.
- Provide upper/lower limit setting function for software does judgment automatically. The result is showed as GO or NG.
- Test WaveForm: provide sine waveform, triangular waveform, and square waveform.
- Provide peak value of displacement(X_o)
- Provide peak value of load (P_o)
- Provide test sequence management.
- Peak value real-time display.
- Real-Time Display following diagrams:
 - (a) Load (force) v.s. Time Diagram
 - (b) Displacement v.s. Time Diagram
 - (c) Load (force) v.s. Displacement v.s. Time Diagram
- The repetitions: flexible setting by users.
- Time interval limit control
- Data Storage: Automatically storage test data and diagram.

UD-3800



Dynamic Fatigue Test Report

UD-3800 Dynamic Fatigue Testing Instrument

<Basic Data>

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Specimen	Piston Fatigue	Order No.	ORS800	Disp. ±:	1.5 mm	Frequency	5 Hz
Part No.	C4155	REC. File	DY203123	Force min	500 Kgf	Waveform	SINE
Produce No.	TD-001	Operator	Chiang	Force max	600 Kgf	Ambient	23±1.5 °C
Item	Force Po	Disp. Xo	Factor K*	MaxForce Pmax	MnForce Prin	Disp. +Xo	Disp. -Xo
Up Lim	640	1.25	420	650	530	1.50	1.40
Dn Lim	480	0.75	350	550	480	0.85	0.80

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Item	Force Po	Disp. Xo	Factor K*	MaxForce Pmax	MnForce Prin	Disp. +Xo	Disp. -Xo	Note
2	552.40 GO	0.882 GO	362.583 GO	632.15 GO	510.22 GO	1.378 GO	0.995 GO	
3	555.67 GO	0.881 GO	363.177 GO	631.79 GO	510.19 GO	1.329 GO	0.993 GO	
4	555.36 GO	0.881 GO	362.862 GO	632.15 GO	510.13 GO	1.320 GO	0.992 GO	
24	556.64 GO	0.881 GO	363.152 GO	632.11 GO	509.44 GO	1.304 GO	0.997 GO	
25	556.59 GO	0.880 GO	363.197 GO	632.01 GO	509.40 GO	1.307 GO	0.996 GO	
26	556.57 GO	0.879 GO	363.199 GO	632.04 GO	509.42 GO	1.300 GO	0.991 GO	
27	556.68 GO	0.880 GO	363.147 GO	632.00 GO	509.40 GO	1.308 GO	0.993 GO	
28	556.78 GO	0.880 GO	363.422 GO	632.06 GO	509.39 GO	1.306 GO	0.991 GO	
29	556.68 GO	0.881 GO	363.179 GO	632.03 GO	509.35 GO	1.318 GO	0.995 GO	
30	556.86 GO	0.881 GO	363.417 GO	632.10 GO	509.40 GO	1.304 GO	0.994 GO	



U-CAN DYNATEX INC.

Factory Mgr. _____ QC Chief _____ Tester _____

Specifications and other contents mentioned above may be changed subject to the improvement requirement without advance notice.

U-CAN DYNATEX INC.

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