



## COMPUTERIZED UNIVERSAL TESTING MACHINE

COMPUTERIZED UNIVERSAL TESTING MACHINE

### Computerized Universal Testing Machines



**KIC-1-XXX-C**  
Capacity up to 1 KN



**KIC-2-XXX-C**  
Capacity up to 30 KN



**KIC-2-XXXX-C**  
Capacity up to 250 KN

### Computerized Servo Hydraulic Universal Testing Machines



**KIC-XXX-SH**  
Capacity up to 100 KN

#### Key Features include :

- Tests Supported** : Tensile Compression Tear Shear Peel Extraction Puncture Friction Flexure Insertion Bend Adhesion
- Load Accuracy:** +/-0.2% of Reading, Traceable to NABL Standards.
- Loading Frame:** Powder coated with compact footprint with Table Mount /FloorMount options.
- Drive Mechanism:** Precision zero backlash Ball Screw driven by variable speed AC Servo drive.
- Testing Area:** Single Space/ Dual space with interchangeable Load Cells.
- Control Mechanism:** Through PC.
- Safety Features:** Emergency Stop button, Upper and Lower limit switches with Over travel protection, Load cell Overload Protection.
- Software:** Kalpak's Windows based software UTM-TEST-C for control of the Machine, Online Data acquisition to PC as well as Data analysis.
- Display:** LCD Monitor

#### Key Features include :

- Dynamic test System for fatigue testing for Materials & Components up to 100 KN
- Load Capacity Options: available in 5 KN/10 KN/25KN/50 KN/100 KN
- Customization: As per User's performance requirements from a variety of options for Load frame Size, force capacity , Servo valve flow ratings, and pump capacity etc.

#### Typical Applications

- Auto Components
- Plastic
- Metals
- Adhesives
- Electronics
- Non Woven Materials
- Packing Materials
- Rubber & Elastomers
- Cords & Textiles
- Medical

#### Horizontal Computerized Universal testing Machine KIC-XXXX-H

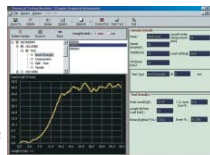


- Load Capacity** Up to 20 KN max. (2 Tons)
- Load Cell Options** 200N, 2 KN, 5KN, 10 KN ,20 KN
- Drive** AC Servo Motor with AC Servo Drive
- Optional Features** Ball Screw driven by variable speed drive for zero backlash.



#### Main Screen :

For setting Sample Details Machine Parameters & Test Parameters.



#### Graph View Screen :

Test Screen showing Graphical Display of Test Data alongside Sample details & T est results.



#### Multi Graph View Screen :

For Comparing Multiple Tests by viewing as superimposed Graphs as well as Tabular analysis of each test results.



#### Test Configuration Screen

#### Kalpak UTM- Test-C Software

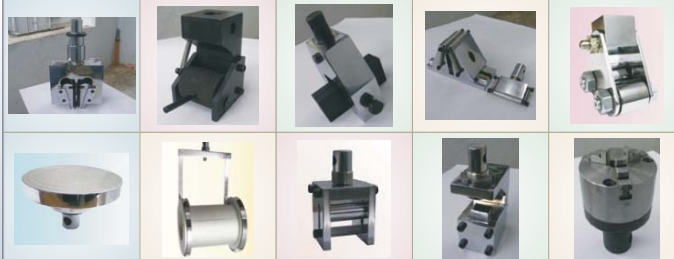
Kalpak UTM-Test-C Software is designed for user friendly Control of Kalpak Computerized Universal Testing Machine. Online Data Acquisition to PC as well as Data Analysis.

#### Key Features include :

- Real time display of data, Test curves
- Test results can be generated Providing Accept/ Reject Status as per defined norms.
- Online/ Off line generation of Graphs of Load Versus length, Load versus Displacement, Load Vs Elongation, Stress Vs Strain, with scaling feature.
- Comparative study of various test results using features like Multi Graphs, Bar Graphs.
- Software password protection.
- Easily accessible file system to retrieve and view stored past data.
- Automatic Calculation of Parameters like Percentage Elongation , Peak load, Break load, Displacement, Peak Elongation, Peak tensile Strength, Break tensile strength, Proof stress, Strain, Young's modulus.

#### Accessories:

We offer a wide range of customized accessories such as Self tightening Wedge Grips, Double Bollard Grips, Eccentric Roller Grips, Screw Clamping Tensile Grips, Bending/ Flexure testing Fixture, Wire Test Grip, Peel Test Fixtures, Compression Plates, Cord Grips, Dumbbell Grip, Rolling Grip for Rubber 'O' Ring, Additional Load cells, Extensometers and Environmental Test chambers.





## Computerized Spring Tester For Online Testing Of Springs



**STM-01-C**  
Capacity 1 KG



**STM-25-C**  
Capacity 25 KG



**STM-300-C**  
Capacity 300 KG



**STM-1000-C**  
Capacity 1000 KG

### Features ▾

- Drive Mechanism : Ball screw driven by variable speed drive for zero backlash and excellent length accuracy.
- Testing Area : Dual space i.e. above and below moving crosshead.
- OUTPUT : Graphical as well as Tabular Report generation
- Software : User friendly windows based software for Data storage, retrieval and Analysis.
- Test Capability : Load test with Length input, Length Test with Load as input Spring rate, Free Length.
- 5 Step Test Method : Tests load v/s Deflection values at 5 programmed heights / loads.
- Safety : Emergency Stop. Over Travel Protection. Overload Protection.
- Accessories : Grips for tension measurement Compression Test Fixture, Hooks.
- Sample testing : Enables user to program for Unlimited samples and select the Test as per the component to be tested.
- Programming : Through Computer Keypad.
- Display : PC Monitor display.
- Control Mechanism : PC based with unlimited memory storage facility.

### Kalpak Spring Testing Software v7

Kalpak Spring testing Software is Windows based user-friendly software. It enables measurement of load and length as well as calculation of free height, deflection at preset length, Load at preset length, Spring Rate. The Test screen displays test results in Tabular and graphical formats. The software enables easy access to past results.

Sr. No.	Length(mm)	Load(Kg)	Length(mm)	Load(Kg)	Length(mm)	Load(Kg)	Spring Rate(Cg/mm)
0001	024.50	+0.36	013.50	+0.11	015.50	+0.62	0.11
0002	024.50	+0.38	013.50	+0.12	015.50	+0.69	0.109
0003	024.50	+0.38	013.50	+0.12	015.50	+0.57	0.108
0004	024.50	+0.37	013.50	+0.12	015.50	+0.40	0.11
0005	024.50	+0.37	013.50	+0.11	015.50	+0.59	0.108
0006	024.50	+0.35	013.50	+0.08	015.50	+0.40	0.11
0007	024.50	+0.38	013.50	+0.11	015.50	+0.59	0.106
0008	024.50	+0.36	013.50	+0.11	015.50	+0.59	0.11
0009	024.50	+0.37	013.50	+0.11	015.50	+0.58	0.109
0010	024.50	+0.35	013.50	+0.08	015.50	+0.40	0.11
0011	024.50	+0.35	013.50	+0.13	015.50	+0.40	0.114
0001	024.50	+0.35	013.50	+0.09	015.50	+0.55	0.108
0002	024.50	+0.34	013.50	+0.08	015.50	+0.54	0.108
0003	024.50	+0.34	013.50	+0.08	015.50	+0.56	0.108
0004	024.50	+0.34	013.50	+0.08	015.50	+0.55	0.108



**STM-300-C**  
Capacity 300 KG



**STM-1000-C**  
Capacity 1000 KG

### Features ▾ Control Mechanism and Programming: Through PC

- Drive Mechanism: Ball Screws driven by AC servo Motor and AC servo Drive
- Testing Area: Dual Space i.e. below and above crosshead
- Output: Test Parameters displayed on PC Monitor & reports on printer
- Software: Kalpak STM-TEST Software for Machine Control, data acquisition and data analysis
- Test Capability: Load test with Length input, Length test with Load input, Spring Rate, free Length
- 5 Step test Method: Tests Load versus deflection values at five programmed heights/loads
- Safety: Emergency Stop, Over Travel Protection, Overload Protection
- Accessories: Grips & fixtures for tension & compression springs
- Group testing : Unlimited group setting facility

## Torsion Spring Tester



Computerized Torsion Spring Tester  
Capacity up to 200 NM



Computerized Torsion Spring Tester  
Capacity up to 2000 NM



Manual Torsion Spring Tester  
Capacity up to 100 NM



Computerized Torsion Spring Tester  
Capacity up to 10 NM

- Choice of Models: Computerized/ Motorized/ Manual
- Accurate Torque/ Angle Measurement
- Interchangeable Torque cartridges
- Accuracy: Better than +/-0.5% of the reading








## MICRO LEAK TESTER

### For Accurate Objective And Fast Dry Air Leak Testing

Kalpak instruments and Controls offers a complete range of Micro Leak Testers to suit virtually any LEAK TESTING application in Production Testing, Quality Control and R & D applications. KALPAK Leak Tester is a PLC with touch panel HMI based instrument capable of easy and accurate volume Leak testing down to 1cc / min and measuring test pressures over a wide range from vacuum to 200 Bar using dry air as a source. It can test the products for leakage as per the latest national and international standards.

- Features**
- Fully Programmable.
  - Ease of Operation.
  - Faster, repeatable Performance.
  - Accept / Reject decision through Audio - Visual indications.
  - Ideal for production line QC / SPC Applications.
  - Easy calibration.
  - Can be used both for Single station Manual Testing as well as Automated Assembly / Test Systems.
  - Touch Panel HMI Display for Test Results and status indication.
  - USB Interface for Data Communication to PC.

We offer a choice from 4 proven Models depending on your allowable leak pressure and test pressure specifications.

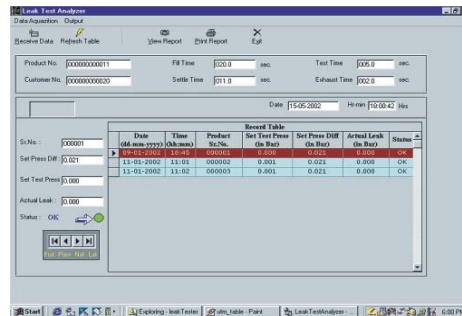
Model				
<b>Model No.</b>	MELD 1000-P	MELD 2000-P	MELD 3000-P	MELD 4000-P
<b>Technology</b>	Vacuum based	Pressure Decay	Differential Pressure / Vacuum	Mass Flow based
<b>Test Pressure</b>	Up to 760 mmHg	Up to 200 Bar	1 Bar to 20 Bar	Up to 100 Bar
<b>Leak Measurements</b>	1 mBar and above	1 mBar and above	0.01 mBar / 0.1mm WC and above	0.1 cc / min. and above
<b>Accuracy</b>	1:2000 parts	1:2000 parts	1:20000 parts	1:10000 parts

### Leak Test Software




Kalpak Leak Test Software is a powerful Windows based user friendly software specially designed for the user of Kalpak Leak Tester. The test data is acquired through the serial PC Port and logged on to provide tabular display. The table indicates Product Details like Product and Customer Code number as also Test Parameters like Fill Time, Settle Time, Test Time, Exhaust Time, Delay Set and Group Set. The Data Table Provides details such as Test Date & Time, Set Test Pressure, Set Pressure Difference, Actual leak and Accept / Reject Status.

#### Features

User friendly screen with complete evaluation & presentation of test results in Tabular formats. Easy to load, Easy to operate, No special training required. Online or Receive mode options Report screen is used to make data entry and to generate reports, Layout design of parameters, results can be pre-programmed as per user requirements Easy access to results of past test data.



### Customized Leak Test Systems

				
<b>Pneumatically operated</b>	<b>Hydraulically operated</b>	<b>Hydraulically operated</b>	<b>Vacuum based System</b>	<b>Vacuum based System</b>

We offer Complete turnkey Leak Test Solutions using our engineering expertise in application of Leak detection Techniques. We have in house capabilities for Electrical and Electronic Design, PLC programming, Customized SPC and Data Analysis Software development, Design & development of Customized Manual/Pneumatic or hydraulic Clamping Test fixtures to support our turn key solutions. Above photos shall provide you with an insight into the range of Customized Leak test Systems developed by us:





### Texture Analyser for Food Testing



KTT-XXX-C up to 1 KN Capacity

- Features:**
- Range: Up to 100 Kg
  - Choice of Models: 5Kg, 20 Kg, 50 Kg, 100Kg
  - Operating Test Modes: Tensile/Compression, Peel, Flexure, Shear, Puncture, Bend
- Applications:**
- Food, Packing, Pharma & Cosmetics
- Accessories:**
- Chip Fixture
  - Cone Probes
  - Compression
  - Ball Probes
  - Sled Fixtures
  - Peel Fixtures
  - Forward & Back Extrusion rigs
  - Cylinder Probes
  - Plates Knife Blades
  - Kramer Shear Cell
  - Self Tightening Grips
  - Three Point Bend Rig

### Computerized Uni-axial Compression Testers



KUCT-XXX-C up to 200 KN Capacity

- Applications:**
- Road Testing:**
- California Bearing Ratio (CBR) test
  - Marshall Stability Test
  - Unconfined Compression test
- Soil and Concrete Testing:**
- Quick Triaxial Test
  - Flexural Strength of Soil Cement Specifications
  - Punching Test on Clay Block
  - Rock and Building Stone Testing
  - Concrete Mortar, Tiles Testing
  - Asphalt Bituminous Material Testing

### Manual Spring Tester

- Features:**
- Operation: Manual
  - Range: up to 50 kg
  - Mounting: Table Mounted
  - Test Parameters: Force, Deflection
  - Test capability: Tension, Compression, Spring Rate



MST-XXX up to 500 N

### Kalpak Force Push Pull Gauges



KFG-01



KFG-02

- Capacity:** up to 50kg
- Options:** Hand held, Stand Mounted, Motorized
- PC Compatibility:** Available as an option
- Accessories:** Customized Test Fixtures For tensile/compression testing
- Typical Applications:**
- Auto and Auto Electrical Components/Assemblies
  - Electrical/Electronic Components/Assemblies
  - Medical Products/Assemblies
  - Mechanical Products/Assemblies

## Kalpak Special Purpose Testing Systems

Our multi disciplinary capabilities enable us to understand customer's requirement in totality and offer them customized solutions to their testing problems as well as upgrading their test capabilities by offering features such as automated testing, data acquisition and analysis. We offer both Micro controller based as well as PC based Data acquisition and analysis systems.



VOC / Formaldehyde Release test Chamber

Endurance Test Machine for Fan/ Blower

Gear Shifter Assembly Endurance test Rig

Jounce & Squirm Test System for Automobile Seats

Custom Turnkey Leak Test System

## Other Applications covered :

### Leak testing applications

- PC Based Automatic Test & Data Acquisition System for Steering Gears
- Welding Torch leakage test Set up
- PC Based Vane Pump Test Rig
- Common Leakage test Rig for Cooling & intake Pipe (Hot water based)
- Automated Leakage test Rig for PTO & FWE casting
- Automated Leakage test Rig Rear & Intermediate Housing casting
- Automated Leakage tester for TEV Body Casting
- SPM for Leak Testing for Air-cooled & Water cooled Cylinder Head and Water cooled Cylinder Barrel
- Leak Testing System for Body Leak Testing of Crank Case
- Leakage test System for Bulb Connector
- Piston Valve Clearance Test Rig

### Other Applications :

- Friction Measurement Set up with PC interface & PC software
- Torch Switch test set up with PC interface & PC software.

### Force/ Torque/ Displacement Testing applications :

- Clutch Plate Torque Test Rig
- Clutch Plate Drag Test Rig
- Clutch Cover Clamp Load/ Release Test Rig
- Acceptance Test Rig for Mann Clutch Cover Assembly
- JASO Test Rig for Command and Control Cables
- Bendix Gear Test Rig
- Muscle Strength Comparator
- Egg Shell Strength Tester
- Food Texture Strength Tester

### Endurance/ Performance test Rigs :

- ACG/ Magneto Performance Test Rig
- ACG & Alternator testing Rig
- Refrigerator Bulb Endurance test Rig
- Automobile Horn Endurance test Rig
- Winker Relay Endurance test Rig
- Switch Endurance Test Rig
- Torsional Vibration Endurance Test



## KALPAK INSTRUMENTS & CONTROLS

16, N.R. Industrial Estate, Hingane Khurd, Vitthalwadi, Pune - 411 051. INDIA

Tel : +91 20 2434 6363, 2434 6802, Fax : +91 20 2434 6363

E-mail : kalpakpune@vsnl.com, kalpakpune@gmail.com Website : www.kalpakinstruments.in

