

**MARATHWADA KRISHI VIDYAPEETH, PARBHANI**  
**COLLEGE OF AGRICULTURAL ENGINEERING & TECHNOLOGY**

No: CAET/RKVY/ /2012

Date:

Tender Form No.	
Cash Receipt No.	
Date	
Amount (Rs.)	

To

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Subject: Blank Tender Form

Ref. : Your Letter No.:

Date: / / 2012

Sir,

This Office is in receipt of **Rs. 3000/-** through cash towards the cost of Blank Tender form for the **Implement Testing Equipment Phase-I** at College of Agricultural Engineering & Technology, M.K.V. Parbhani. I am enclosing here with the set of tender form as desired by you. The Earnest Money deposit (EMD) prescribed for the above mentioned tender is Rs. 20,000/- You are requested to go through the terms and conditions of the tender before filling the tender form. Following points may be noted while submitting the tender forms.

The prescribed amount of EMD should be in the form of demand draft drawn in favour of Comptroller, M.K.V. Parbhani and should be enclosed with the tender form. The tender forms should be submitted in two separate envelopes 'A' & 'B' as given below. Both Envelop should be subscribed as Envelope "A" and Envelop "B"

**Envelope "A" should contain:**

- a. EMD of Rs. 20,000/- in the form of National Bank. Demand Draft drawn in favour of the Comptroller, M.K.V. Parbhani is prescribed.
- b. Copy of the Authorized dealer if any.
- c. Copy of partnership deed, if any along with power of attorney
- d. Registration of the firm under shop act
- e. TIN number and PAN number Xerox

**Envelope "B" should contain:**

1. Rates of the **Implement Testing Equipment Phase-I** quoted in the Tender form.
2. Undertaking in the prescribed form for fulfilling.

Both the envelopes should be sealed in a big envelope addressed to the Associate Dean & Principal, College of Agricultural Engineering & Technology, Marathwada Krishi Vidyapeeth, Parbhani on or before 03 -09 - 2012 in office hours. The tender will be opened on 03 -09 - 2012 at 16-00 hours at Associate Dean & Principal, College of Agricultural Engineering & Technology, Marathwada Krishi Vidyapeeth , Parbhani.

Associate Dean & Principal,  
College of Agricultural Engineering & Technology,  
Marathwada Krishi Vidyapeeth, Parbhani.

Place:

Date:

To,  
The Associate Dean & Principal,  
College of Agricultural Engineering & Technology,  
Marathwada Krishi Vidyapeeth, Parbhani- 431 402.

Subject: Tender for **Implement Testing Equipment Phase-I** to be purchased for  
College of Agricultural Engineering and Technology, M.K.V. Parbhani.

Sir,

I am submitted herewith the tender form duly filled in the **Implement Testing Machinery Phase-I** for College of Agricultural Engineering & Technology, M.K.V. Parbhani. I am also enclosing herewith the following document with tender form.

**1. Envelope "A" Containing:**

- a. EMD of Rs. 20,000/- in the form of National Bank. Demand Draft drawn in favour of the Comptroller, M.K.V. Parbhani is prescribed. (D.D. No: \_\_\_\_\_  
Date: \_\_\_\_\_ Bank: \_\_\_\_\_)
- b. Copy of the Authorized dealer.
- c. Copy of partnership deed, if any along with power of attorney.
- d. Registration of the firm under shop act
- e. TIN number and PAN number Xerox

**2. Envelope "B" should containing:**

- a. Rates of the **Implement Testing Equipment Phase-I** quoted in the Tender form.
- b. Undertaking in the prescribed form.

I have gone through the terms and conditions for Workshop Machinery for College of Agricultural Engineering and Technology, M.K.V. Parbhani. I fully agree with the terms and conditions enclosed with the tender form

Yours Faithfully

Name and Signature of the Dealer/Supplier

**TERMS AND CONDITIONS FOR THE TESTING EQUIPMENT AT  
COLLEGE OF AGRICULTURAL ENGINEERING AND TECHNOLOGY,  
M.K.V. PARBHANI**

1. The tender should be accompanied with the EMD of Rs. 20,000/- in the form of Demand Draft from any National Bank drawn in favour of Comptroller, M.K.V. Parbhani. If D.D. towards the EMD is not enclosed, the tender will be rejected. The EMD of the supplier whose Contract/tender is accepted will be retained and in other cases, it would be returned after decision is taken on the said tenders within a month from the date of finalized of tender.
2. Rate should with stand at list 6 months from the date of issue of order and should be maintained up to one year.
3. It is open to accept even higher rates or to rejects or recall tender without assigning any reason. Discretionary power vests with the university authority to reject /accept tender without scrutiny or prior reason.
4. Rate should be quoted inclusive of all costs (including transport) towards equipments each page should be signed by the Tenderer.
5. Tender Cover must bear Tender for **Implement Testing Equipment Phase I** College of Agricultural Engineering and Technology. M.K.V. Parbhani.
6. Payment of bill will be made after testing by Associate Dean & Principal, College of Agricultural Engineering & Technology, Marathwada Krishi Vidyapeeth, Parbhani.
7. Income tax, Sales tax, VAT etc. will be deducted from bills as per Government rules.
8. All the articles will have been supplied for Parbhani.
9. Advance payment will not be made either in full or part.
10. Demonstration of equipment with satisfactory performance should be given before the payment is made to the supplier.
11. The quantity may vary as per requirement.
12. Failure to observe any of the Conditions mentioned above will result in cancellation of tender.
13. The tender in whose case the tender is accepted will have to execute agreement bond and deposit initial security deposit (3%) of the total cost of execute finalized in the form of Demand Draft in the name of Comptroller M.K.V., Parbhani. The amount of security deposit will be refunded only after satisfactory completion of the contract.
14. In case of any legal disputes, the matter must be decided in the judiciary jurisdiction of District court, Parbhani or Mumbai High court of judicature, bench at Aurangabad.
15. The supplier shall be responsible for and pay the expenses of providing medical aid to any workman who may suffer bodily injury as result of an accident at the time of testing if such expenses are incurred by university the same be recoverable from the supplier for with and be deducted without prejudice to any other remedy of Government from any amount due or that may be come due to supplier.

Associate Dean & Principal,  
College of Agricultural Engineering & Technology,  
Marathwada Krishi Vidyapeeth, Parbhani.

## **UNDERTAKING**

I/We agree and accept the terms and conditions of the Tender no. \_\_\_\_\_/2012 and also it is binding on me/our part to fulfil the supply of **Implement Testing Equipment Phase-I** as per list College of Agricultural Engineering & Technology, Marathwada Krishi Vidyapeeth, Parbhani.

Signature with Seal

Name of the Dealer/Supplier  
With full Address

Place: \_\_\_\_\_

Date: \_\_\_\_\_

Sr. No.	Description	Remarks
1.	<p><b>1. Turret Lathe Machine manual hand feed to Turret, <b>Standard Accessories</b> :</b> - Electricals, 2 HP Motor (3 phase) belts, R/F Switch, Collet attachment with one Collet, One Spanner Set, One Allen Key Set, Oil Can etc.</p> <p><b>Specification :-</b> Capacity Round Collet 25 MM, Bed length 1050 mm, Centre Height 165 mm, spindle Bore 28mm.</p> <p>Accessories at extra Cost : <b><u>Tools Cost</u></b></p> <ul style="list-style-type: none"> <li>• Knee Tool Holder</li> <li>• Boring Tool Holder</li> <li>• Centering &amp; Facing Plunge type</li> <li>• Drill chuck with Sleeve</li> <li>• Multi tool Hoder</li> <li>• Parallel Shank Drill Sleeve MT-1 /MT-2 (Each Price)</li> <li>• Coolant pump should be provided</li> <li>• 3 Jaw/4Jaw Chuck should be included</li> </ul> <p><b>2. Heavy duty Lathe Machine</b></p> <p><b>Lathe Bed:-</b> The lathe bed should be designed to the specification which provides, great strength to resist torsional strains. It is made from closed grain alloy cast iron to resist wear and maintain accuracy over a long period.</p> <p><b>Head Stock:</b> The spindle should be made out of high tensile steel and precisionly ground it runs on high precision antifriction taper roller bearings. Drive belt from counter should be affixed to rear side of headstock, provides smooth and quiet operation for life time.</p> <p><b>Carriage:</b> The carriage has large bearing surface minimising the force per unit bearing area and hence wear on the bed ways. It should be guided for high accuracy and positive alignment by the inverted V and flat ways. Wedges are provided to facilitated the adjustment to be made for compensation of wear.</p> <p><b>Foot Proof apron:</b> The Apron box should be studrdy and double walled construction. It should be provided with safely inter-lock, which prevents simultaneous engagements of feed and threading mechanism. Both the sliding and surfacting feeds can be engaged by tightening the star knob an accordingly setting the position of the feed lever.</p> <p><b>Tail Stock:</b> The tail stock has long bearing on bed and base should be adjustable for taper tuning. A standard mouse taper spindle hole allows the use of drills and reamers with M.T. Shanks.</p> <p>With Accessories:</p> <ol style="list-style-type: none"> <li>1. Chuck plate</li> <li>2. Change gear set for mm and Inch</li> <li>3. Oil Trey</li> <li>4. Ded Centres 2 Nos</li> <li>5. Centre Sleeve for spindle</li> <li>6. Square toolpost &amp; key</li> </ol>	

**Extra Accessories:**

1. Electronic Motor 2 Hp
2. On Off switch
3. 4 Jaw Dog Chuck
4. 3 Jaw Through Chuck
5. Steady Rest
6. Follow Rest
7. Belt

**SPECIFICATION**

Size	10"
Height of Centre	300 mm
Max. Admit between Centre	1940 mm
Max. Swing over bed dia	520 mm
Max. Over cross side dia	345 mm
Width of gap in front of face plate	200 mm
Length of bed	3030 mm
Spindle hollow	52 mm
Taper of centre	4 MT
Lead screw diameter pitch (TPI)	38 (4)
No. Of spindle	B
Pop up of AC motor 3 Hp & 1440 RPM	2.25 (3Hp)
No. of inch threads & range	19 (1 to 24 TPI)
No. of I-Metric threads & Range	13 (1 to 6 mm Pitch)
Apporx weight	1800 kg.

2.	Shaping Machine V Belt cone Pulley drive, Ram fitted with quick action Rocker arm mechanism, Square Box table either Fixed / Swivel type Complete wit 3 Hp 24" Size Motor (3 phase) belts, push Button Starter, Machine Vice with handle, manual hand lubricator with pipe line connections. <b>Capacity Maximum Stroke 18"</b> Coolant pump, Tool kit ,Tool Holder with tool should be included	
3.	Horizontal Universal Milling Machine, Auto feed to table longitudinal traverse only, Cross & Vertical traverse are manual, Complete with 3 HP Motor (3 phase) belts, Push button Starter, Arbour with Spacers, & standard accessories. <b>Table Surface Size 48" x 10"</b> <b>Accessories at extra cost :-</b> <ol style="list-style-type: none"> <li>1. Vertical Milling Attachment</li> <li>2. Dividing Head Centre 137 mm</li> <li>3. 3 Jaw True chuck with flange fitted.</li> <li>4. Milling machine vice size 125 mm with swivel base</li> <li>5. Rotary Milling table</li> <li>6. (Tools for Gear Cutting Operation) Involute Gear cutter</li> <li>7. (Tools for Vertical Operation) Collet Adopter with Collet Size 3/8"</li> <li>8. (Tools for Vertical Operation) End Mill Cutter Size 3/8"</li> <li>9. Coolant pump should be included</li> <li>10. Jigs and fixtures for job holding should be included</li> </ol>	
4.	Welding Transformer Air Cooled, Regulator type, to work on 2 line of 3 phase/single phase supply, m/c mounted on Rubber Wheels, Capacity 400 amps, Rating 21 KVA Set of welding Accessories with all essential accessories	
5.	<b>Spot welding machine</b> foot pedal operated with manual thyristor Capacity 15 KVA with all essential accessories	
6.	<b>Hydraulic Power Press 4 Pillar type</b> , Steel fabricated body, Hand / Motorized type, with V block, pressure Gauge & Hose Pipe, <b>Capacity 50 Tons</b>	

	(A) Price for hand operated m/c (B) Price for Motorized m/c Hydraulic lubrication pump should be included	
7.	<p>1. <b>Pillar Type Drill Machine</b> Capacity <b>25</b> mm (1") Complete with 1 hp Moor (3Phase) belt, R/F switch, ½" drill chuck with MT-3 arbour, machine table handle &amp; standard accessories.</p> <p>Sleeve set with work holding device accessories should be included</p> <p>2. <b>Specification For Radial Drill Machine</b></p> <p>Drilling Capacity : 38 mm</p> <p><b>Drill Head</b></p> <p>1. Spindle Nose : MT 4  2. Spindle Travel : 220  3. No. Of spindle speed : 8  4. Range of spindle speed (RPM) : 62-1980  5. Range of power Feed : (2) 0.08-0.04</p> <p><b>Power</b></p> <p>1. Main Motor (1.5 Hp) : B-46  2. Arm Elevating Motor : A-23</p> <p><b>Working Table</b></p> <p>1. Drilling Radius Max/Min : 895/440  2. Max/Min Dist Column to spindle : 810/360  3. Max Drill Head Drive : 540  4. Max/Min Base plate to spindle : 930/230  5. Diameter of Column : 168  6. Swivel of Arm/L/R side : 90<sup>0</sup></p> <p><b>Base Plate</b></p> <p>LxWxH : 760x1250x150  Working surface : 820x160  No. Of T slot : 4</p> <p><b>Dimension</b></p> <p>Overall Height : 2000  Wooden Case (LxWxH) : 1250x1550x2000</p> <p><i>Overall Dimension are in mm and approximate only</i></p>	
8.	<b>Double ended Bench Grinder</b> Cap. 1HP – 2800 RPM, 10" Wheel (3ph) complete with on-off switch, Wheel guard, standard tool rest etc.	
9.	<p><b>CNC LATHE PRODUCTION MACHINE (TURNING CENTRE)</b></p> <p><b>SPECIFICATION OF CNC MACHINE</b></p> <p><b>CAPACITY:</b></p> <p>SWING OVER BED : 600 mm  SWING OVER CROSS SLIDE : 350 mm  DISTANCE BETWEEN CENTRES : 1350 mm  MAXIMUM TURNING DIA : 500 mm  BED WIDTH : 450 mm  BED ANGLE : Flat</p> <p><b>HEAD STOCK:</b></p> <p>SPINDLE NOSE : A2-6 (8)  SPINDLE BORE : 65 (75) mm  SPINDLE TAPER : 80 MT</p>	

	<p>CHUCK SIZE : 315 (400) mm</p> <p>SPEED RANGE : 3000 (2000) RPM</p> <p>MOTOR POWER : 7.5/11 KW</p> <p><b>TALK STOCK:</b></p> <p>QUILL DIAMETER : 96 mm</p> <p>QUILL STROKE : 180 mm</p> <p>TAPER IN QUILL : 5 MT</p> <p><b>AXES:</b></p> <p>X AXIS STROKE : 250 mm</p> <p>Z AXIS STROKE : 1350 mm</p> <p>BALL SCREWS : 32/40 mm</p>	
10	<p><b>Ultra Compact Optical Emission Spectrometer</b></p> <p>Technical Data for</p> <p><b>Patented Optical System</b></p> <ul style="list-style-type: none"> <li>• Un-coated CCD detector with lowest dark current</li> <li>• Flat field grating</li> <li>• Full spectrum coverage : 170- 685 nm</li> <li>• Resolution: 30 pm</li> <li>• Argon purged for best transparency</li> <li>• Clear Spectrum (R) technology for advanced spectra deconvolution</li> <li>• Active Ambient Compensation (AAC) for operation between 10 and 45<sup>0</sup>C (50 and 113<sup>0</sup>F)</li> </ul> <p><b>Analytical Solution packages (ASP)</b></p> <ul style="list-style-type: none"> <li>• Different matrix calibration packages available</li> <li>• ASPs cover all major elements &amp; alloy groups</li> <li>• Upgradable for future expansion</li> </ul> <p><b>Source Generator</b></p> <ul style="list-style-type: none"> <li>• Maintenance-free, two phase PWM Generator</li> <li>• Frequency 50 to 1000hz</li> <li>• Spark &amp; arc-like discharges from 10µs to 2 ms</li> </ul> <p><b>Software</b></p> <ul style="list-style-type: none"> <li>• Intuitive Windows (R) based software for simple routine operation</li> <li>• Various user levels for secure and task-specific operations</li> <li>• Functions for qualitative and quantitative analysis</li> <li>• Complete Q Matrix Software Suite including analysis database &amp; interfaces to Office Software</li> <li>• Grade Library functions</li> </ul> <p><b>Electrical Data</b></p> <ul style="list-style-type: none"> <li>• 100 to 240 V (50/60 Hz)</li> <li>• 200 W during measurement, 50 W standby</li> <li>• 16 A (240V) slow blow fuse or 25 A (100V) Slow blow fuse</li> </ul> <p><b>Spark Stand</b></p> <ul style="list-style-type: none"> <li>• Maintenance free</li> <li>• Argon Consumption 2.5 l/min during measurement</li> </ul> <p>Argon quality 4.8 ( or better)</p>	

Elements	Al Global		Al-Si		Al-Cu		Al-Zn	
	Al100		Al120		Al130		Al150	
	Min %	Max%	Min %	Max%	Min %	Max%	Min %	Max%
Si	0.005	22.00	5.00	22.00	0.005	1.30	0.005	0.45
Fe	0.02	2.20	0.03	1.50	0.02	0.65	0.02	0.65
Cu	0.005	21.00	0.005	4.40	1.00	21.00	0.005	2.80
Mn	0.005	12.00	0.005	0.55	0.005	1.10	0.005	0.55
Mg	0.005	10.00	0.005	1.50	0.005	1.50	0.30	5.00
Cr	0.005	0.35	0.005	0.15	0.005	0.14	0.005	0.40
Ni	0.005	4.00	0.005	4.50	0.005	0.20	0.005	0.005
Zn	0.005	11.00	0.005	0.33	0.005	0.45	1.00	11.00
Ti	0.002	0.45	0.005	0.25	0.005	0.28	0.002	0.22
Pb	0.05	1.00	0.05	0.60	0.005	0.06	0.005	0.05
Sn	0.01	0.32	0.01	0.33	0.005	0.06		
V	0.005	0.11	0.005	0.06	0.005	0.11		
Zr	0.005	0.24	0.005	0.11	0.005	0.24		
Sr	0.01	0.15	0.003	0.15				
Al	Reference		Reference		Reference		Reference	

Elements	Fe- Global		Low Alloy Steel		Cast Iron		Cr/Ni Steel	
	Fe100		Fe110		Fe120		Fe130	
	Min %	Max%	Min %	Max %	Min %	Max%	Min %	Max%
C	0.005	4.40	0.005	1.50	1.70	4.50	0.005	1.70
Si	0.01	6.00	0.01	1.50	0.10	5.00	0.005	4.00
Mn	0.005	19.00	0.003	2.50	0.005	1.50	0.005	19.00
P	0.100	1.20	0.003	0.08	0.003	1.20	0.003	0.07
S			0.003	0.10	0.003	0.10	0.003	0.10
Cr	0.01	28.00	0.003	5.50	0.01	1.40	7.00	27.00
Mo	0.01	11.00	0.01	1.50	0.01	1.50	0.01	3.00
Ni	0.005	50.00	0.01	6.50	0.01	1.80	0.01	22.00
Cu	0.005	8.00	0.005	0.80	0.005	1.50	0.003	8.00
Al	0.005	1.20	0.003	1.20	0.003	0.09	0.003	0.05
Mg	0.005	0.12			0.005	0.12		
Co	0.005	10.00	0.005	0.35	0.005	0.12	0.005	0.60
Nb	0.005	3.00	0.005	0.35	0.005	0.07	0.005	3.00
Ti	0.003	2.50	0.003	0.35	0.003	0.35	0.003	0.45
V	0.01	10.00	0.005	0.90	0.005	0.55	0.005	0.90
W	0.10	19.00	0.03	3.30	0.05	1.50		
Fe	Reference		Reference		Reference		Reference	

Sr No.	Name of Equipments	Technical Details
11	Dynamometer EDDY CURRENT DYNAMOMETER	<p><b>EDDY CURRENT DYNAMOMETER E-5/25</b></p> <p>Max. Power E-5KW/4000 to 15000 RPM/25KW/4000 to 12000RPM</p> <p>Max. speed @1200RPM = 1.5 BHP</p> <p>Max. Torque 95N-m@1000 to 2000 RPM</p> <p>The dynamometer should supply with water filter with magnetic separator</p> <ul style="list-style-type: none"> <li>- A pressure switch</li> <li>- Suitable for absorbing and measuring power in both direction</li> <li>- Load cell weaning mechanism</li> </ul> <p><b>STANDARD MECHANICAL ACCESSORIES</b></p> <ul style="list-style-type: none"> <li>- Universal engine mounting test bed type</li> <li>- Cardan shaft</li> <li>- Cardan shaft guard</li> <li>- Dynamiter calibration kit</li> <li>- Magmatic pickup</li> <li>- Gravimetric fuel consumption meter</li> </ul> <p><b>OPTIONAL ACCESSORIES</b></p> <ul style="list-style-type: none"> <li>- Temperature measurement system</li> <li>- Relative humidity, ambient temperature measurement and barometric pressure measurement</li> <li>- Intake Air Pressure</li> <li>- Exhaust Gas pressure sensor</li> <li>- PC based automation system for Engine test bed</li> </ul>
12	<p><b>Computerized Universal Testing Machine 100KN (10T) Capacity 100 KN MODEL: TNE100-SD-PC</b></p>	<p>Suitable for tension, compression, shear, Flexural testing on metals, plastics, rubber, wire samples as per IS 1828(2005): Class I.</p> <p><b>TECHNICAL SPECIFICATIONS:</b></p> <p><b>Universal Testing Machine Capacity 10 T with following features/ parameters.</b></p> <ul style="list-style-type: none"> <li>• Maximum Capacity: 100 KN (10 tons)</li> <li>• Test materials: Metal, Rubber, Plastic, Wire.</li> <li>• Load cells: 100 KN. (1,2,5,10,25,50 KN Optional at additional cost)</li> <li>• Load resolution: 0.01%</li> <li>• Load accuracy: +/- 0.5%</li> <li>• Length resolution: Cross head travel: 0.01 mm</li> <li>• Length accuracy: 0.05mm</li> <li>• Test mode: Tensile, Compression, Flexural, Bending.</li> <li>• Cross head speed: Variable from 0.1 to 250 mm/min</li> <li>• Cross head speed resolution: 0.01 mm</li> <li>• Cross head travel: 700 mm with grip and load cell.</li> </ul> <p><b>Grip and attachment:</b></p> <ol style="list-style-type: none"> <li>a) Compression plates 150 mm dia. Std supply.</li> <li>b) Wedge action Grips with 0-10, 10-20 mm for flat sample and 8-12, 12-20 mm for round sample with 50 mm width std supply.</li> <li>c) 3 point bend flexural attachment.</li> <li>d) Grip for wire dia. from 0.1 to 6 mm Eccentric roller Grip</li> </ol>

required for testing rubber samples.

- e) Screw type grips for testing round and sheet plastic sample

**Extensometer:**

- Type : Strain gauge type
- Model: MCE-2
- Gauge length: 25 & 50 mm replaceable.
- Max. extension: 2 mm
- Resolution: 1 micron
- As per IS 12872 : 1991:Class I.
- Display: Real time display of date and test curve.
- Control system: Computer controlled based on dedicated software.
- Units: Load units KN,N,KG, Stress unit  $\text{Kn/mm}^2$  ,  $\text{N/mm}^2$   $\text{Kg/mm}^2$ , psi.
- Safety: Emergency stop, Over travel protection,
- Electronic over load protection.

**Computer accessories:**

- a) Computer: Branded computer with licenses operating system Windows XP or Windows 7 with minimum configuration such as i3 processor, 3.1 GHz, Hard disc of 500 GB, RAM 2GB DDR3, Graphic card 1GB,DVD Writer, Monitor 18.5 TFT. or Higher/equivalent
- b) Printer: HP Laser jet 1020: 1 no. or Higher/equivalent
- c) UPS Branded 1KVA with 15 min backup.

Software backup in CD: Software for tensile, compression, flexural, bending as standard.

**MEASURING SYSTEM DETAILS:**

Microprocessor based panel with digital indication of load, displacement, extension etc.

Full fledge membrane keyboard

Data entry for entering specimen dimensions.

Scrolling of results up to failure.

Push button zeroing of load, displacement and extension.

Results on panel include ultimate load, displacement at ultimate load, max. displacement ,UTS, % Elongation, % reduction in area, Yield load, Yield Stress. (% elongation and % reduction in area are available after entering initial and final dimensions.)

PC interface with serial communication.

16 Bit A TO D convertor with 10 microseconds conversion time for analog channels

**SOFTWARE DETAILS:**

- Windows XP based application software to control machine as per requirement and to get test results developed in house using MS Access database and VB as front end.
- Test report standard format with user defined fields provided. Customised test report will be designed as per customer requirement if required.
- High speed data acquisition and interface with RS 232C communication to acquire data of load, displacement and extension from panel and to send speed etc to panel.
- Software designed for tensile, compression, bending, cyclic, spring, shear tests.
- All test results stored under unique file no. which can be retrieved any time.

		<ul style="list-style-type: none"> <li>• Test results include ultimate load, displacement at ultimate load, max. displacement, ultimate stress, proof stress at 0.1-1 %. Breaking load, Breaking Strength, Yield strength, 0.5% Yield strength at 0.5% extension, % elongation, % reduction in area, Young's modulus, flexural strength and modulus, modulus data for spring, spring constant etc. ( any other results can be added if required )</li> <li>• Menu and icon driven software for easy operation.</li> <li>• Test report with graph available on any printer connected to PC.</li> <li>• Selectable load, stress units like, KN, N, KG, KN/MM<sup>2</sup>, N/MM<sup>2</sup>, Mpa, psi, , kg/mm<sup>2</sup> etc.</li> <li>• Over travel, over load, selectable load and displacement safety provided.</li> <li>• Icons for zeroing of load, displacement, extension provided.</li> <li>• On line real time graph available.</li> <li>• Extensive graphics with curve tracing, zooming, magnifying etc.</li> <li>• Output of 2 graphs for single test viz. load vs displacement, stress vs strain.</li> <li>• Batch testing software available.</li> <li>• Transfer of test data to excel.</li> </ul>
13	<b>Hand-Arm &amp; Whole Body Vibration Kit</b>	<p><b>Hand-Arm &amp; Whole Body Vibration Kit</b> Includes 72-001 HAVPro Personal Human Vibration Monitor, 72-010 3-Axis Voltage Mode Accelerometer, 72-007 Sensor Cable, 72-005 Clamp Style Mounting Adapter and 72-011 3-Axis Seat Pad Accelerometer with quest software</p>
14	<b>Soil Compaction Meter</b>	<p>Monitor overall soil compaction and quality, quick and effectively with this digital penetrometer.</p> <p>The #1 source of yield loss in Agriculture, soil compaction prevents moisture penetration, reduces fertilizer and chemical utilization and hinders plant root growth. In some cases, yield losses can run as high as 30% due to soil compaction. Don't let it go unnoticed.</p> <p>Soil Compaction meters are used to determine the density of soil and other material. An operator pushes a rod with attached (ASAE standard) cone into the ground. The resistance of the cone as it is pushed in the ground is measured and recorded in the memory of the compaction meter. The depth of the cone below soil surface is also measured and recorded in memory.</p> <p>Compaction data is recorded and displayed at one inch intervals, in PSI or KPa. Built-in data logger eliminates the need to record data manually. Included software allows user to download data, change logger settings and configure the meter.</p> <p>Measure, log, and review data with the SC-900 Soil Compaction Meter to make better soil management decisions based on data specific to your field. Identify and address specific problem areas on-site and in real time</p> <p>With essential accessories.</p>

15	<b>Profile Gas cutting Machine</b>	<p><b>Specification of profile gas cutting machine And technical data</b></p> <p><b>Physical Dimensions:</b></p> <p>Length : 1220 mm  Breadth : 1220mm  Height : 1700mm  Weight : 300 kg</p> <p><b>Electrical Power</b>  0.05 KW  Motor: 1/15-Hp, single phase AC/DC 4000 RPM.</p> <p><b>Input Supply:</b>  Voltage: 230 V  Phase : Single  Frequency : 50 Hz</p> <p><b>Cutting Media</b>  Recommended mixture of Acetylene or LPG and Oxygen.</p> <p><b>Maximum Cutting Area:</b></p> <p>Square : 950 mm sq.  Circle : 1000 mm Dia.  Strip : 2150 mm Long</p> <p><b>Cutting Capacity for Mild Steel in thickness:</b></p> <p>Minimum : 3 mm  Maximum : 150 mm</p> <p><b>Cutting speed for Mild Steel:</b></p> <p>Minimum : 25 mm per minute  Maximum : 500 mm per minute</p> <p><b>Note:</b> Cutting speed should be set inversely proportional to the material thickness.  With essential accessories.</p>
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