

**Division of Agricultural Engineering  
ICAR-Indian Agricultural Research Institute  
New Delhi – 110 012**

No. 141/2018-19/AE

Dated 14-09-2018

**CORRIGENDUM**

This is with reference to tender No. 141/2018-19/AE dated 04-09-2018 and tender ID 2018\_DARE\_379694\_1 regarding purchase of **Universal Testing Machine** required for Division of Agricultural Engineering, the **revised specification may please be read as under against the previous specification.**

**UNIVERSAL TESTING MACHINE**

**Specifications:**

1. 6 pillar/column type
2. Capacity – upto 600kN
3. Gripping system – hydraulic
4. Resolution – 0.01kN
5. Max clearance for testing: 100-600 mm (tensile); 0-600 mm (compression)
6. Clearance between column – min 500 mm
7. Test speed – 0-50 mm/min
8. Computerized data recording and analysis

**For Tension Test:**

Clamping jaws for round specimens 8-16mm, 13-26mm, 26-40mm (1 set each)  
Clamping Jaws for Flat Specimens thickness 0-30mm (1 set)

**For Compression Test**

Pair of compression plates -220mm- 1 No  
Spherical seating facility for cube test  
NABL Calibration certificate in compression mode

**For Transverse Test:**

Table with adjustable roller: 140 mm wide and 50 mm diameter roller  
Radius of Punch Tops-16mm, 22mm – 1 No each

**Data Logger:**

To measure voltage, current, resistance and frequency and other derived measurements. With real time data acquisition and remote monitoring and control. Logger should come with software for PC for monitoring and analyzing acquired data

System:

- LCD display with 2 line 16 characters with back light
- Operating Temperature range :  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$
- Display functions – channel data, alarms and system status
- Real Time Clock : resolution  $200\ \mu\text{s}$  accuracy  $\pm 1\ \text{min}/\text{year}$
- External voltage range: 10 to 30Vdc
- Internal Battery : 6Vdc 4Ah lead acid
- Peak Power: 12W (12Vdc 1A)

Analog Inputs:

- Linearity : 0.01 %
- 32 channel differential inputs / 48 channel single ended inputs
- Input impedance  $> 100\ \text{M}$  programmable

Analog Output:

- 16 bit DAC: voltage 0-10V or current 0-24mA

Sampling Rate:

- Maximum sample speed: 40Hz
- Common mode rejection:  $>90\text{dB}$
- Line series mode rejection:  $>35\text{dB}$

**The other terms and conditions will remain unchanged.**

**Asstt. Admn. Officer (AE)**