

Weight loss Platform system

Technical Specifications

Weight loss measurement system consisting of following platforms, data logger and application software to measure weight loss rate(kg) of burning fuel in the fires experiments with respect to time(s) - One No

Weighing scale platform details:

0 to 100 kg – 01 No; 0 to 200 kg – 01 No; 0 to 300 kg – 01 No.

	Parameter	Description
1.	0 to 100 kg weigh scale specifications	
	Range	0-100 kg or more
	Accuracy	± 5 gms or better
	Resolution	5 gms or better
2.	0 to 200 kg weigh scale specifications	
	Range	0-200 kg or more
	Accuracy	± 10 gms or better
	Resolution	10 gms or better
3.	0 to 300 kg weigh scale specifications	
	Range	0-300 kg or more
	Accuracy	± 20 gms or better
	Resolution	20 gms or better
4.	Platform base for all three weighing scales	600 mm × 600 mm or more
5.	Material of Construction	Complete stainless steel (SS-304) including platform including base.
6.	Type	It should be portable to move.
7.	Display	Minimum 30 mm height, 6 digit backlight LCD display. Display will be placed at 25 m distance from the platform.
8.	Protection load cell	IP 67 or better
9.	Keypad	Chemical resistance with audible key press feedback.
10.	Operational keys	Minimum Zero, Tare and Print functions on the unit for manual operation in control unit.
11.	Operating temperature:	0° to 600° C. The fuel will burn over the platforms. The platforms will be installed in the environment of high temperature up to 600(±100) °C. so (i) Platform should be properly insulated to avoid heat transfer to weight loss measuring sensors. (ii) The output signal from the weight sensors should not be affected due to high temperature. (iii) Load cell should be properly protected to function in high temperature environment.
12.	Mains power supply	230 VAC±10%50 Hz.
13.	Battery backup	2 hrs minimum or more (If battery backup is not there UPS should be provided to meet the requirement).
14.	Serial port	For PC Communication.
15.	Data Logger/Control unit Features: 03 No for all three individual scales with respect to their accuracy.	
16.	Data logging	Proper data logging/control unit device(s) should be supplied for data logging in the computer with respect to time.
17.	Measurement stability	±5 gms for 100 kg, ± 10 gms for 0 to 200 kg and ± 20 gms for

		300 kg or less
18.	Measurement resolution	± 5 gms for 100 kg, ± 10 gms for 0 to 200, ± 20 gms for 300 kg or less
19.	Scan rate	≤ 1 sec or less
20.	Logging scan Interval	User programmable (Minimum 1 sec)
21.	Location of the platform and data logger/control unit	The data logging device/control unit will be placed in the data logger room. The weight loss platforms will be installed in the experimental room. The maximum distance between experimental room and data logger room is 25 m. So proper insulated cables for connecting the platform and measuring sensors to data logger/control unit terminals should be provided and fixed in underground cabling in the conduit is in bidder scope.
22.	Data logger/control unit connection to PC	USB cable for PC connection 2m long RS-232 to USB Interface should be provided (PC is in CBRI scope).
23.	Software features	Software supplied should have the following features with user settable parameters: Start test, Test name input, Specimen name input, Scan interval selection, Tare, Record and Stop Test and transfer data to excel format.
24.	Display	Display in the computer as elapsed time and total platform load from the time of start of logging. Time(s) Vs Weight (kg)
25.	Tare	Facility of zeroing (Tare) the load. After the test starts, zeroing is not allowed.
26.	Storage of data in PC	Data storage of total load values of platform with respect to elapsed time in MS-Excel format data files at least for two hour test should be stored in the computer.
27.	MS excel report	The excel sheet report must contain the following for each scan interval: Date, Time (Real time), Scan interval (s) and Platform load weight (kg).
28.	Real time clock	Software should pick the system time and display during the test on the screen as well as for the data logging in the PC.
29.	Test report	Generation of soft copy of data test report in excel should save in the computer automatically.
30.	Compatibility	Suitable and compatible software to receive, transfer and analyze the data in PC for WINDOW 8 or better operating system
31.	Noise control	High stability, low noise control data acquisition system should be supplied and housed in an elegant table top cabinet which can be mounted on wall.
32.	General features	
33.	Complete Installation, demonstration, commissioning, system integration, technical training and servicing training of complete system should be done by the supplier at experimental facility at site at CBRI, Roorkee.	
34.	The following document in hard and soft copies should be provided (i) Instruction manual for operation of equipment. (ii) Proper calibration certificate. (iii) Instruction manual for software	
35.	Warranty for system should be two years in all respect. However if the standard warranty is for less than two years, the cost of warranty for additional period may be mentioned.	