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RESOTECH UNIVERSAL TESTING PROPOSAL

Professional Manufacturer of Test Equipment



FEATURES:

Universal Testing Machines have a wide range of applications and number of materials, metals in different form and shapes can be tested for variety of tests like Tension, Compression, Transverse, Bend, Shear, Brinell Hardness etc. Special attachments are also available for testing of Flat Belts, Chain Links, Wire Ropes etc.

MAKE:-RESOTECH

MODEL NO. RESOTECH OMEGA-2608

MANUFACTURERS & SUPPLERS

SPECIAL PURPOSE MACHINE, MATERIAL TESTING MACHINE, LEAKAGE TESTING MACHINE, PACKAGING TESTING MACHINE, ENVIRONMENTAL TEST CHAMBER, ASSY. LINE EQUIPMENT, SOLUTION FOR ELECTRONIC AUTOMATION AND PRODUCT DEVELOPMENT, COMPUTERIZED CONTROL MACHINE , PLC HMI SCADA VISUAL BASIC SOFTWARE DEVELOPMENT SOLUTION AND OTHER SERVICES.

The mechanical properties of materials are determined by performing carefully designed laboratory experiments that replicate as nearly as possible the service conditions. In the real life, there are many factors involved in the nature in which loads are applied on a material. The following are some common examples of how these loads might be applied: UNIVERSAL, compressive and shear, just to name a few. These properties are important in materials selections for mechanical design.

UTM MACHINE RESOTECH OMEGA-2608



EQUIPMENT DETAILS

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DETAILED SPECIFICATIONS

UTM is electromechanical system with integrated digital closed-loop control, data acquisition system with measurement of load, crosshead travel and extension (through extensometers). The basic system comprises of Electromechanical Load frame, Signal conditioning and Control Unit, Standard Computer, Software Package, Load Cells, Displacement Transducer and Grips/ Fixtures (As per requirement).

LOADING FRAME:

The base has a hydraulic cylinder at its center and two main screws at both ends. The middle cross head is mounted on screws through main nuts. The middle cross head can be moved up or down through chain transmission and geared motor to adjust the initial tensile/compression clearance. Inside base of machine, hydraulic cylinder is seated in which piston is placed on the piston, rests an assembly of upper, lower cross head and two columns. The individually lapped cylinder piston assembly ensures smooth axial force with minimum friction.

CONTROL PANEL

Hydraulic circuit it consists of hydraulic power pack which has a directly driven radial plunger pump which gives continuous non pulsating flow of oil pressure up to 210bar a pressure compensated needle type flow control valve is obtained with help of valves. Optionally this can be controlled form electronic system.

LOADING RATE / STRAINING RATE CONTROL

This is superfine controlling system which controls loading rate / straining rate as per commands from electronic machine control system. FTM Software can send loading rate / straining rate to electronic system for fully automatic testing.

LOAD MEASUREMENT SYSTEM

The oil pressure in the main cylinder is also transferred to an electronic pressure transducer which gives proportionate signal to electronic unit. Both the motors for hydraulic operation and cross head motion are controlled by buttons on electronic control system and they have interlocked to prevent simultaneous working of motors. The electrical panel is housed in control panel. Displacement measurement is carried out by means of a rack and pinion on rotary encoder. Encoder signal is fed to electronic system to get displacement.

OPERATION

Tension test is conducted by gripping the test specimen in the upper and middle cross head. Compression, Bending, Transverse, Shear and Hardness tests are conducted between the middle and lower cross head by using appropriate fixtures. The rapid adjustment of middle crosshead facilitates easy fixing of tensile / Compression specimens of different lengths.

Hydraulic controls are through hand operated valve, ergonomically placed for ease of control. Optionally valves can be controlled from electronic control system. Adequate safeties for over load and over travel are incorporated and emergency switch is provided.

ACCURACY & CALIBRATION

Every machine is calibrated in accordance with procedure laid down in BS-1610-1964 IS 1828-1991. 'Resotech' Computerized Fatigue Testing Machines comply with grade of BS 1610-1964 and Grade 1.0 of IS 1828-1991. An accuracy of $\pm 1\%$ guaranteed from 2% to 100% of capacity of the machine. In the computerized FTM, the computer is an integral part of the entire system and not just an ADD ON feature. This puts a lot of power and versatility into the hands of the operator and makes the system much more self-contained than usual, as it includes many functions usually only available as additional (often expensive) optional features.9

FEATURES OF RESOTECH UTM SOFTWARE:

- Menu driven form system with color graphs to compare sample test results
- Test details and reports are stored in database
- User programmable master test templates
- User can select test from master test Templates and can start similar test
- Load and Elongation is continuously displayed on screen
- Overload protection for machine by electronic control
- Tare Load and Reset Elongation facility available
- User selectable sample break detect condition
- Load rate and strain rate are also displayed while testing
- Unlimited Load rate and strain rate control steps
- With Load rate controller, user can hold the load on specimen for unlimited time
- With Load rate control, user can specify positive or negative Rate of Loading
- User selectable units for load and displacement (kg, kN,N, lbf, mm, cm, inch etc.) Results and graphs are automatically displayed accordingly
- On line display of Load and Displacement (Stress, Extension, Strain) etc. while test is conducted
- Provision of auto zeroing of Elongation at preload set by user
- User Programmable Reports. User can select Header, Footer, Specimen information, Dimensions, Test information, Test results, Static analysis as per his need
- Generated reports can be exported to PDF file and can be e-mailed
- If electronic extensometer is used then proof stress values from 0.1% to 1% can be determined
- Software will give alert to user to remove extensometer when load crosses .2% of Gauge length selected then proof load value is calculated. (With extensometer)
- Separate graph of extensometer and encoder is displayed
- Provision of calculation of Load and Elongation at yield, Peak load and Load at break, Yield stress, Ultimate stress etc
- Special software for tensile, compression, bend, TOR steel and other test software as per customer requirements

TECHNICAL SPECIFICATION:

Specifications	Models					
	OMEGA-100	OMEGA-200	OMEGA-400	OMEGA-600	OMEGA-1000	OMEGA-2000
Measuring Cap. (kN)	100	200	400	600	1000	2000
Measuring Range. (kN)	0-100	0-200	0-400	0-600	0-1000	0-2000
Least Count (kN)	0.005	0.01	0.016	0.024	0.04	0.08
Load Range in kN with accuracy of Measurement $\pm 1\%$	2 to 100	4 to 200	8 to 400	12 to 600	20 to 1000	40 to 2000
Resolution of Piston movement (mm)	0.01	0.01	0.01	0.01	0.01	0.01
Max. tensile clearance at fully descended piston position	50 to 700	50 to 700	50 to 700	50 to 800	50 to 850	50 to 900
Maximum clearance for Compression test (mm)	0 - 700	0-700	0-700	0-800	0-850	0-900
Distance between columns (mm)	450	500	500	600	750	850
Piston Stroke (mm)	150	200	200	250	250	300
Maximum straining speed at no load (mm/min)	300	150	150	100	80	45
Power Supply	3 phase 415V 50 / 60 Hz A.c.					
H. P. (Total)	1.5	1.5	2.5	2.5	4.0	6.5
Overall dimensions (Approx) (mm L x W x H)	1950 * 800 * 1850	2000 * 800 * 1900	2100 * 800 * 2060	2200 * 800 * 2400	2350 * 800 * 2700	3000 * 800 * 3600
Weight (Approx in kg)	1300	1400	2000	3000	4200	10000

PRINTER PORT FOR PRINTER INTERFACE

GRAPH & RESULT PRINT-OUT

BATCH CERTIFICATE PRINT - OUT

TEST CERIFICATE PRINT -OUT

SIMPLE STATICES PRINT - OUT

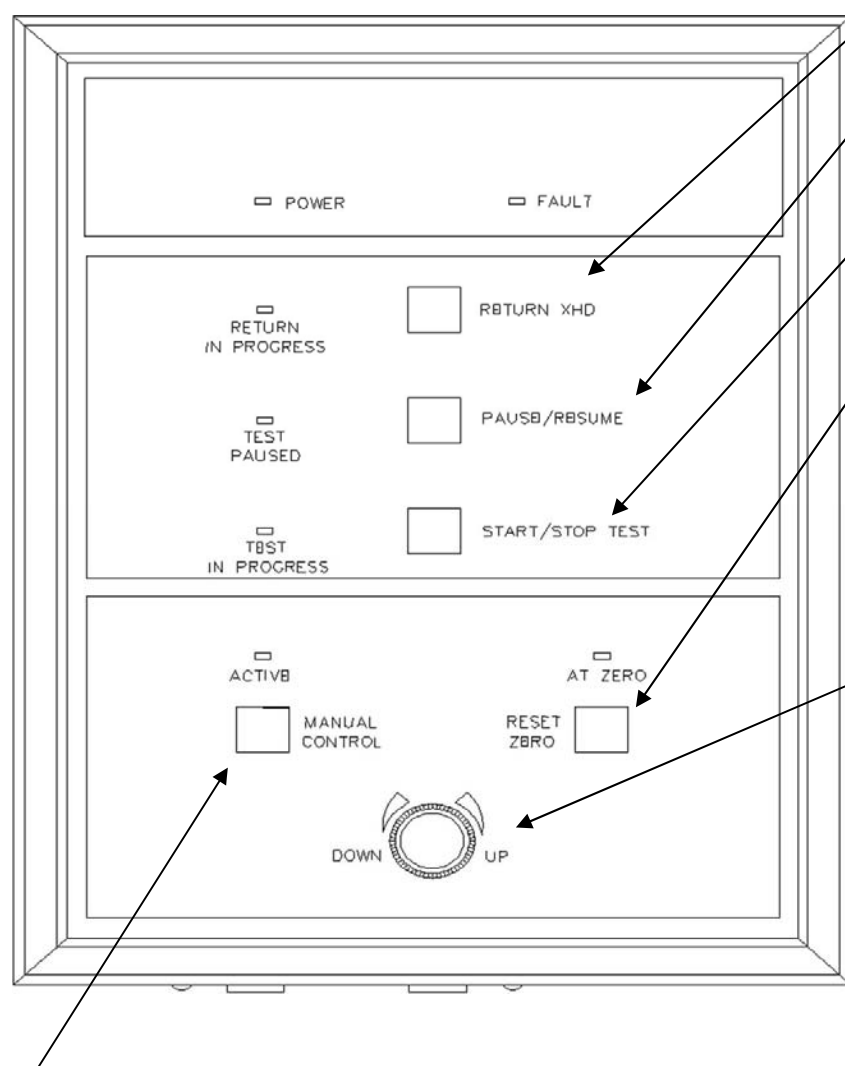
Section 4.

Controls

Manual Controls

The Series Universal Testing Machine (UTM) is computer-controlled, but limited functions can be controlled manually. The manual control station is mounted on the load frame and provides several test controls at this position. Below is a list of controls used during operation. Refer to Figure 2.

NOTE: In order for this equipment to be controlled manually, the software must be in operation.



Return XHD - This pushbutton (with corresponding LED) will return the crosshead to the zero position.

Pause/Resume - This pushbutton (with corresponding LED) will hold a test in progress or resume a paused test when pressed.

Start/Stop Test - This pushbutton (with corresponding LED) will start/stop the test from the load frame.

Reset Zero - This pushbutton resets the zero position of the crosshead to its current location when the button is pressed. The ACTIVE indicator and the Manual Control Window on screen must be present for this function to operate. An LED indicator above the button will indicate when the crosshead is at zero.

Jog Pot - This jog is a proportional control, permitting the user to manually operate the up and down movement of the loading crosshead. As the jog is turned in either direction, the moveable crosshead speed gradually increases. When the knob is released, the moveable crosshead movement stops. The active indicator and the Manual Control Window must be ON for this function to operate.

Manual Control - This pushbutton will enable the manual controls, by pressing the button and holding for 3 seconds. An illuminated LED indicator above the button shows when the manual control functions are active. When activated, the manual control window will appear on the computer screen. Manual control is accessed from either the load frame or the computer.

Emergency Stop - This pushbutton is mounted on the base of the UTM and provides an instant stop of all machine functions when depressed. The Emergency Stop function is available at all times when power is applied to the UTM. When pushed, the pushbutton will lock the power off. In order to restore power, turn the button.

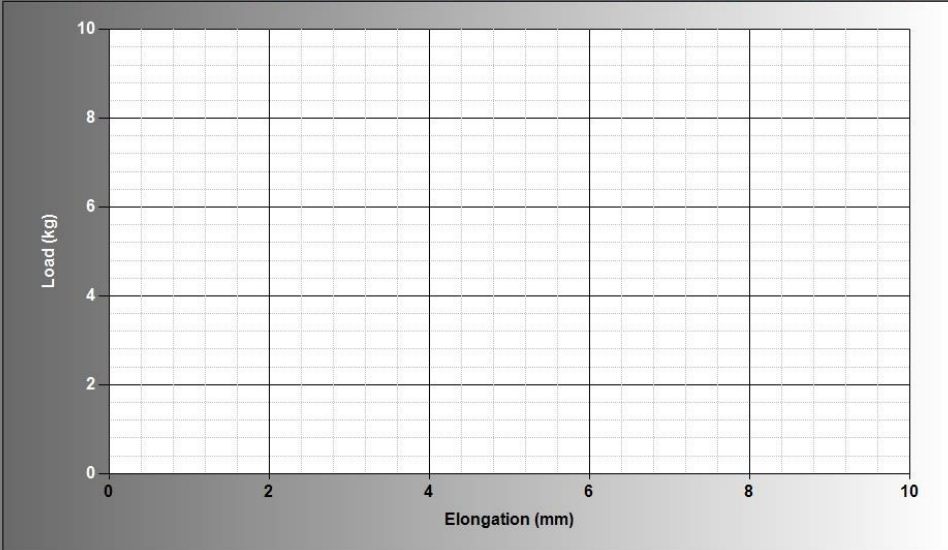
ComputerControlFunctions

The Universal Test Machine is primarily computer-controlled using the software. Figure 3 shows a list of the software menu items available with this manual will explain how to perform functions in all the menu items except for some items available in the SYSTEM menu, as they should be accessed by resonance personnel only.

NEW TEST		HISTORY		INPUT		REPORT		EXCEL		CLOSE	
-----------------	--	----------------	--	--------------	--	---------------	--	--------------	--	--------------	--

Load (kg) 0.3	Elongation (mm) 0.01	Stress (kg/cm ²) 0	Strain (%) 0	Date 1/30/2022	Time (sec) 0
				11:06:42 PM	

Test No - 1	Group - Trial	Test - Tensile	Shape - Rectangle	Spec. - Rubber	
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Select Group: Trial
 Operator:
 Select Graph:
☒ Load Vs Elongation
☐ Strain Vs Time
☐ Load Vs Time
☐ Stress Vs Strain

Peak Force =	Elong. at Peak =
Elong. at Break =	Strength =
% Elongation =	Modulus At 100% =
Modulus At 200% =	Modulus At 300% =
Modulus At 500% =	

Input Parameters:
 Width(mm) 10 Thickness(mm) 2
 Length(mm) 20 Area(mm²) 20
 Speed(mm/min) 50

LOAD ZERO	ELONG. ZERO
START	STOP
UP	DOWN

Section 5. Operation

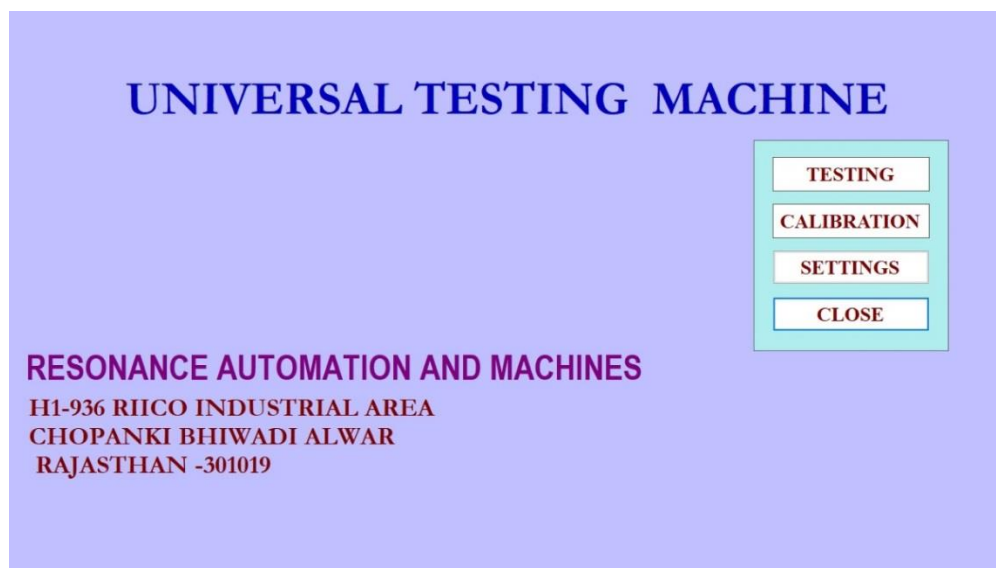
General

The purpose of this section is to describe procedures related to operating the Computer Controlled Universal Test Machine (UTM). Before a test can be conducted, Hardware Parameters and Software Preferences must be set.

- (Creating a Test
- < Positioning the Specimen
- (Running a Test
- (Manual Operation

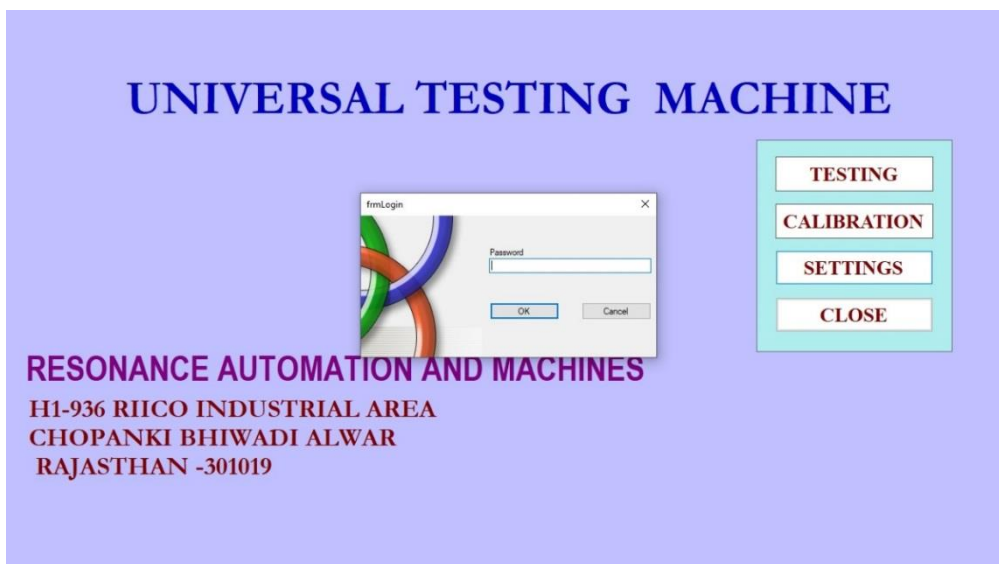
WELCOME SCREEN

Here operator can choose whether he wants to do samples testing or to do software settings,

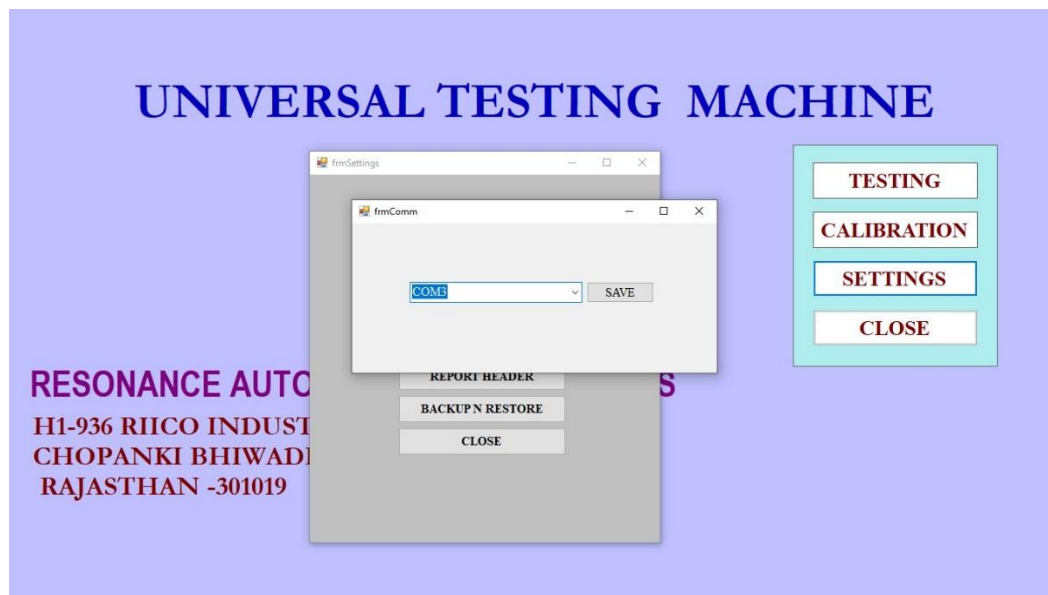
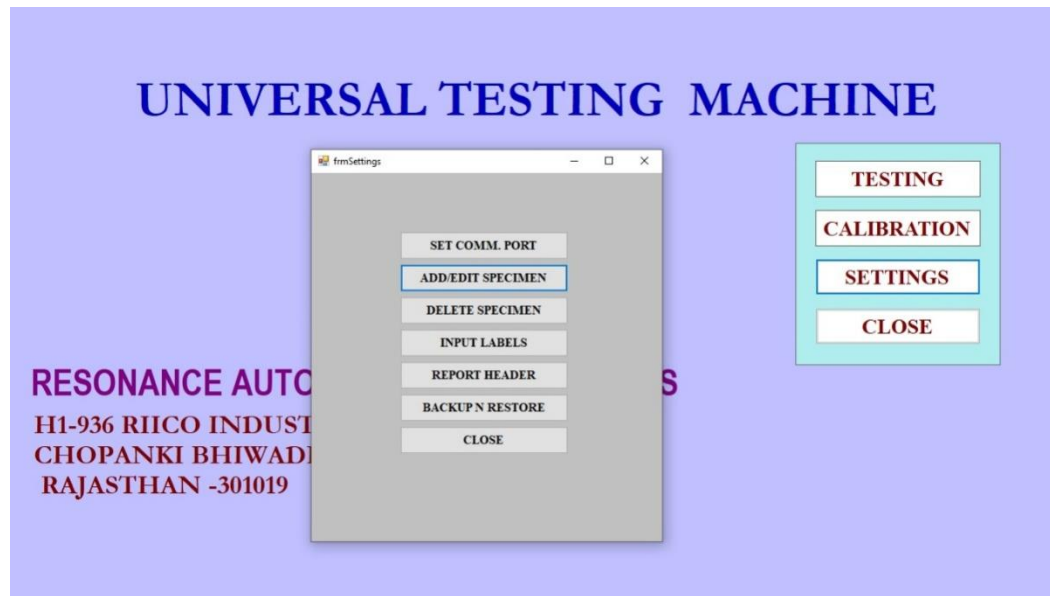


SETTINGS

All software settings and backup options are here. A "admin" password is required to get in to this option. Settings menu shown below.



To set communication port click on 'SET COMM. PORT' option and then choose the port no on which the Interface unit is connected



TEST SCREEN

NEW TEST

HISTORY

INPUT

REPORT

EXCEL

CLOSE

Load (kg) **0.3**

Elongation (mm) **0.01**

Stress (kg/cm²) **0**

Strain (%) **0**

1/30/2022
11:06:42 PM

Time (sec) **0**

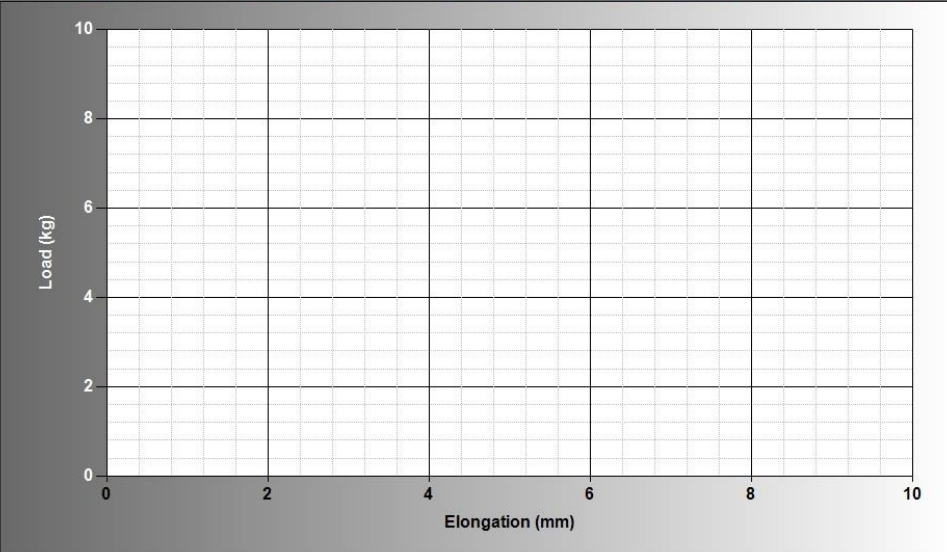
Test No - 1

Group - Trial

Test - Tensile

Shape - Rectangle

Spec. - Rubber



Select Group: Trial

Select Graph:

☒ Load Vs Elongation
 ☐ Load Vs Time

☐ Strain Vs Time
 ☐ Stress Vs Strain

Peak Force =
 Elong. at Break =
 % Elongation =
 Modulus At 200% =
 Modulus At 500% =

Elong. at Peak =
 Strength =
 Modulus At 100% =
 Modulus At 300% =

Input Parameters:
 Width(mm) 10 Thickness(mm) 2
 Length(mm) 20 Area(mm²) 20
 Speed(mm/min) 50

LOAD ZERO

ELONG. ZERO

START

STOP

UP

DOWN

INPUTS

All input settings are set here. Test Unit, Result Unit, Break Checking, Set Load, and Set Disp., whether to use extensometer or not, if proof load required set percentage for proof load, Test Direction and all other input parameters like test type, specimen, shape etc. Graph range settings also here.

Inputs

Group : Trial ADD GROUP
 TEST NAME : Tensile
 SPECIMEN : Rubber
 SPC SHAPE : Rectangle
 Ref. Std. :
 Test Sample :
 Material :
 Sample ID :

Test Unit : kg
 Result Unit : kg/cm²
 Load cell No. : 3

Graph Settings
 Y Load Range : 10
 X Disp. Range : 10
 X Time Range : 10
 Y Load Inc Step : 5
 X Disp. Inc Step : 5
 X Time Inc Step : 5

Select Control Type
☒ Check Break Break Percent :
☐ Load Control
☐ Disp Control
☒ Auto Home ☐ Manual Entry Of Final Length
☐ Use Extensometer P.Load % 0.2
 TEST DIR : UP
 QUALITY : None ENTER

Select Graph
☒ Load Vs Elongation ☐ Elongation Vs Load
☒ Load Vs Time
☒ Elongation Vs Time
☒ Stress Vs Strain %

SAVE

EDIT

CLOSE

ADD EDIT SPECIMEN

Here the administrator can add new specimens like(Rubber, TMT Bar, Iron Rod, Door Hinge, Brake Hose etc) And assign test type(Tensile, Compression, Flexural, Elongation Test etc) also can select test results required For specified specimen.

Specimen Name	Test Name
Test Results	
☐ Peak Force	☐ Force at Break
☐ Elong. at Peak	☐ Elong. at Break
☐ Test Time	
☐ Peak Stress	☐ Peak Strain
☐ Strength	☐ % Elongation
☐ Yield Load	☐ Yield Stress
☐ Elong. at Yield	☐ Young's Modulus (E. Modulus)
☐ Avg Peak Force Average Multiple Peak Force (Adhesion)	
☐ Adhesive Strength (Avg Force/Width)	
☐ Tear Strength (Peak Force/Thickness)	
☐ Peel Strength (Peak Force/Width)	
☐ Proof Load	☐ Proof Stress
☐ Elong. at PL	☐ Modulus 100%
☐ Modulus 200%	☐ Modulus 300%
☐ Modulus 500%	☐ TS/YS Ratio
☐ Final Area	☐ YS/TS Ratio
☐ % Reduction Area	
SAVE CLOSE	

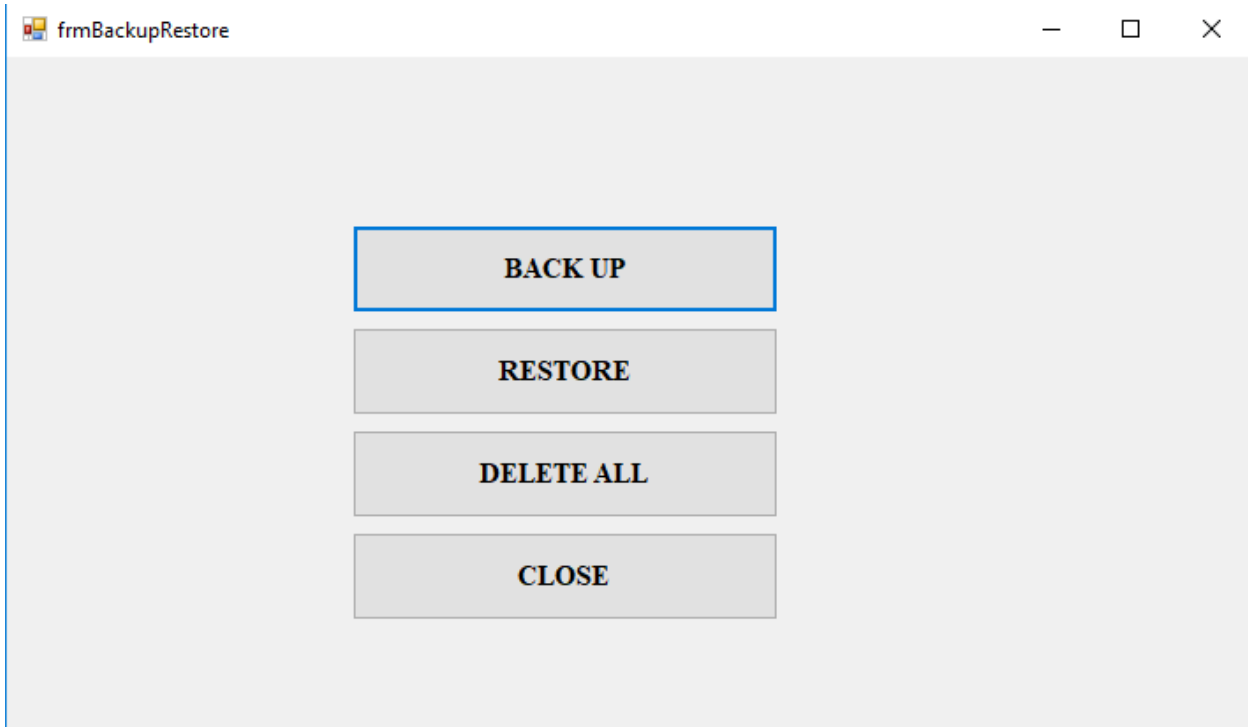
BACKUP & RESTORE

Backup

Administrator can take backup of all test and settings here. It is advised to take back in regular intervals.

Restore

Any time if your software get corrupted or loss of data, administrator can restore back data back to system using this option. Care should be taken while restoring the data, by clicking delete all data administrator has to clear all current then use restore.(Note : only the data till backup date will be restored).



HISTORY

Here user can see all previous test and take print out from here.

GROUP													
TEST DATE FROM				TEST DATE TO				SELECT RANGE CLICK					
TMT bar				13-Nov-17				14-Nov-17					
Sl. No.	Test No	Operator	Test Date	Peak Force	Force at Break	Elong. at Peak	Elong. at Break	Test Time	Proof Load	Peak Stress	Peak Strain	% Elong	
1	57		13-Nov-17 6:45:14 PM	24.721	24.056	18	17.5	7.1	0	258.75	0.18	18	
2	56		13-Nov-17 6:39:48 PM	80	80	90	91.5	37.1	76.5	837.34	0.92	92	
3	55		13-Nov-17 6:06:48 PM	80	80	90	162.5	66.1	76.5			162	
4	54		13-Nov-17 5:58:41 PM	79.562	79.486	84	83.5	33.8	76.5			84	
5	53		13-Nov-17 5:51:25 PM	80	80	90	110	44.7	76.5			110	
6	52		13-Nov-17 5:46:20 PM	80	80	90	96	38.9	0			96	
7	51		13-Nov-17 5:13:27 PM	65.129	64.721	54.5	54	0	0			54	
8	50		13-Nov-17 4:42:27 PM	80	80	90	126.5	51.3	0			126	
9	49		13-Nov-17 4:38:39 PM	80	80	90	159	138.1	0			159	
10	48		13-Nov-17 4:29:50 PM	80	80	90	120.5	48.9	0			120	
11	47		13-Nov-17 3:30:50 PM	80	80	90	195	0	0			195	
12	46		13-Nov-17 2:52:45 PM	80	80	90	100.5	0	0			100	
13	45		13-Nov-17 2:49:15 PM	80	80	90	99	0	0			99	
14	44		13-Nov-17 2:46:06 PM	80	80	90	98	0	0			98	
15	43		13-Nov-17 1:27:22 PM	11.212	8.09	7.6	8.2	0	0			8	
16	42		13-Nov-17 1:17:35 PM	11.421	5.041	8.7	9.3	0	0			9	
17	41		13-Nov-17 1:07:40 PM	9.929	9.114	5.8	5.9	0	0			6	
18	40		13-Nov-17 12:57:01 PM	6.578	3.248	6	6.4	0	0			6	

PRINT

EXIT

GROUP

TEST DATE FROM

TEST DATE TO

TMT bar

13-Nov-17

14-Nov-17

SELECT RANGE CLICK

Load Vs Elongation

Load Vs Elongation

Elongation Vs Time

Load Vs Time

Stress Vs Strain

	Sl. No.	Test No	Operator	Test Date	Peak Force	Force at Break	Elong. at Peak	Elong. at Break	Test Time	Pr				
	1	57		13-Nov-17 6:45:14 PM	24.721	24.056	18	17.5	7.1	0		258.75	0.18	18
	2	56		13-Nov-17 6:39:48 PM	80	80	90	91.5	37.1	76.5		837.34	0.92	92
	3	55		13-Nov-17 6:06:48 PM	80	80	90	162.5	66.1	76.5				162
	4	54		13-Nov-17 5:58:41 PM	79.562	79.486	84	83.5	33.8	76.5				84
	5	53		13-Nov-17 5:51:25 PM	80	80	90	110	44.7	76.5				110
	6	52		13-Nov-17 5:46:20 PM	80	80	90	96	38.9	0				96
	7	51		13-Nov-17 5:13:27 PM	65.129	64.721	54.5	54	0	0				54
	8	50		13-Nov-17 4:42:27 PM	80	80	90	126.5	51.3	0				126
	9	49		13-Nov-17 4:38:39 PM	80	80	90	159	138.1	0				159
	10	48		13-Nov-17 4:29:50 PM	80	80	90	120.5	48.9	0				120
	11	47		13-Nov-17 3:30:50 PM	80	80	90	195	0	0				195
	12	46		13-Nov-17 2:52:45 PM	80	80	90	100.5	0	0				100
	13	45		13-Nov-17 2:49:15 PM	80	80	90	99	0	0				99
	14	44		13-Nov-17 2:46:06 PM	80	80	90	98	0	0				98
	15	43		13-Nov-17 1:27:22 PM	11.212	8.09	7.6	8.2	0	0				8
	16	42		13-Nov-17 1:17:35 PM	11.421	5.041	8.7	9.3	0	0				9
	17	41		13-Nov-17 1:07:40 PM	9.929	9.114	5.8	5.9	0	0				6
	18	40		13-Nov-17 12:57:01 PM	6.578	3.248	6	6.4	0	0				6

PRINT

EXIT

TESTING

New Test – Old Test data and graph get cleared and ready for new test.

User has to select the group in which he want to do testing. When user select a group all settings get loaded.

Click Start to start test. Input details given below.

NEW TEST

HISTORY

INPUT

REPORT

EXCEL

CLOSE

Load (kN)

Elongation (mm)

Extension (mm)

Stress (N/mm²)

Strain (%)

13-Nov-17

Time (sec)

0

11:57:51 PM

Test No - 58

Group - TMT bar

Test - Tensile

Shape - Deformed Bar

Spec. - TMT Bar

50

40

30

20

10

0

Load (kN)

0

10

20

30

40

50

Elongation (mm)

Select Graph

Load Vs Elongation

Load Vs Time

Elongation Vs Time

Stress Vs Strain

Peak Force =

Force at Break =

Elong. at Peak =

Elong. at Break =

Test Time =

Proof Load =

Peak Stress =

Peak Strain =

% Elongation =

Young's Modulus =

Proof Stress =

Input Parameters

S.Mass(gm)

600

S.Length(mm)

800

Density(kg/mm)

0.00785

G.Length(mm)

100

Area(mm²)

95.541

Speed(mm/min)

50

LOAD ZERO

ELONG. ZERO

START

STOP

UP

DOWN

HISTORY

HISTORY

Here user can see all previous test and take print out from here.

GROUP

TEST DATE FROM

TEST DATE TO

TMT bar

13-Nov-17

14-Nov-17

SELECT RANGE CLICK

Load Vs Elongation

	Sl. No.	Test No	Operator	Test Date	Peak Force	Force at Break	Elong. at Peak	Elong. at Break	Test Time	Proof Load	Peak Stress	Peak Strain	% Elong
1	57		13-Nov-17 6:45:14 PM	24.721	24.056	18	17.5	7.1	0	258.75	0.18	18	
2	56		13-Nov-17 6:39:48 PM	80	80	90	91.5	37.1	76.5	837.34	0.92	92	
3	55		13-Nov-17 6:06:48 PM	80	80	90	162.5	66.1	76.5			162	
4	54		13-Nov-17 5:58:41 PM	79.562	79.486	84	83.5	33.8	76.5			84	
5	53		13-Nov-17 5:51:25 PM	80	80	90	110	44.7	76.5			110	
6	52		13-Nov-17 5:46:20 PM	80	80	90	96	38.9	0			96	
7	51		13-Nov-17 5:13:27 PM	65.129	64.721	54.5	54	0	0			54	
8	50		13-Nov-17 4:42:27 PM	80	80	90	126.5	51.3	0			126	
9	49		13-Nov-17 4:38:39 PM	80	80	90	159	138.1	0			159	
10	48		13-Nov-17 4:29:50 PM	80	80	90	120.5	48.9	0			120	
11	47		13-Nov-17 3:30:50 PM	80	80	90	195	0	0			195	
12	46		13-Nov-17 2:52:45 PM	80	80	90	100.5	0	0			100	
13	45		13-Nov-17 2:49:15 PM	80	80	90	99	0	0			99	
14	44		13-Nov-17 2:46:06 PM	80	80	90	98	0	0			98	
15	43		13-Nov-17 1:27:22 PM	11.212	8.09	7.6	8.2	0	0			8	
16	42		13-Nov-17 1:17:35 PM	11.421	5.041	8.7	9.3	0	0			9	
17	41		13-Nov-17 1:07:40 PM	9.929	9.114	5.8	5.9	0	0			6	
18	40		13-Nov-17 12:57:01 PM	6.578	3.248	6	6.4	0	0			6	

PRINT

EXIT

REPORT

After each testing the report will be auto generated and saved into specified folder. User can generate a report directly from testing window and from history. range settings also here.

COMPANY NAME

Address

Contact number

COMPONENT CERTIFICATION LAB

TEST REPORT

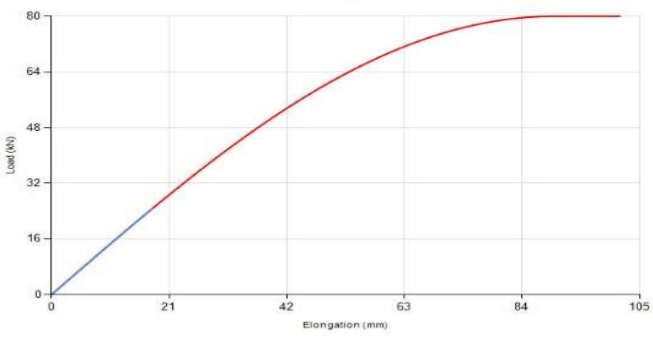
Test Report No.:

Test Date: 14-Dec-17
12:03:02 AM

TEST PARAMETERS

1. Reference Standard :	ROD
2. Docket No. :	Bss
3. Test Speed (mm/min) :	50
4. Test Sample :	SAMPLE ROD
5. Material :	MILD STEEL
6. Title of Test :	TENSILE
7. Sample ID No. :	J5216
8. Area (mm ²) :	

Load Vs Elongation



Elongation (mm)	Load (kN)
0	0
21	16
42	32
63	48
84	64
105	80

TEST RESULTS

Sample No	Max. Load (N)	Max. Displacement / Stroke (mm)	Tensile Strength (N/mm ²)	Elongation (%)	Measured Value of Test Piece		
					Thickness (mm)	Width (mm)	Length (mm)
1	80 kN	101 mm		101			
2	24.721 kN	17.5 mm		18			

Tested By,

Checked By,

FORMATE

EXCEL

User save raw test data into excel file using this option. TEST

REPORT FORMAT

EXCEL ,PDF, WORD.



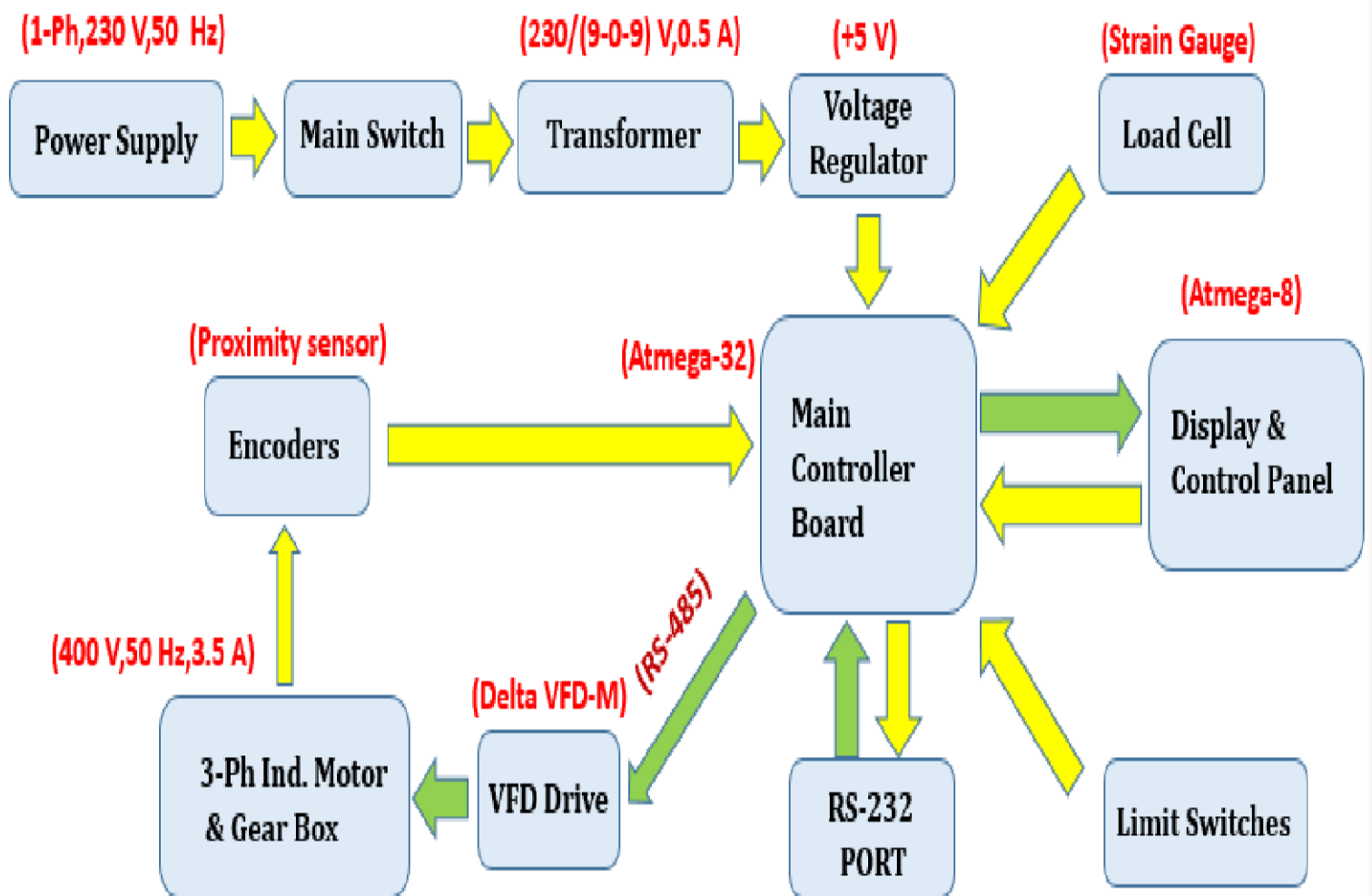
Test can be done in stroke or strain control. Online graphs of stress vs strain load vs displacement. Option to save the test profiles. Auto data acquisition settings, option to view multiple test graph in one plot. Option to run test in dual rate. Option to remove the extensometer and continue the test in stroke control. Option to stop the test after specified percentage load drop. Limit Settings on stroke, strain and load channels, offline post processing program to analyze the results in MS excel PDF and word.

COMPRESSION PLATENS

A set customized platens that directly integrated with the universal grip pull

CONTROL PANEL

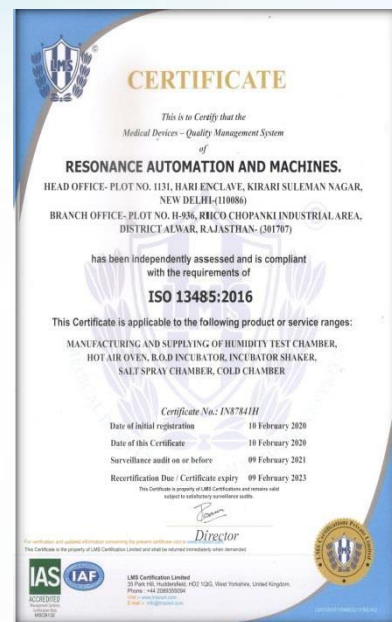
Block Diagram



Resonance Automation and machines Universal testing machine is closely controlled for sensitivity, accuracy and calibration during every stage of manufacture. Machine is calibrated over each of its measuring range in accordance with the procedure laid down in as per tender specifications.



COMPANY CERTIFIED BY



Company Certificate

संघीय लघु उद्योग निगम लिमिटेड
THE NATIONAL SMALL INDUSTRIES CORPORATION LIMITED
(A Government of India Enterprise)

Sr. No. 92485

Branch Office: NTSC Complex, Okhla Industrial Estate, New Delhi-110020
Ph: 011-26382707 Fax: 011-26382427
Email: delhinisc@nsic.co.in Website: www.nsic.co.in

GOVERNMENT PURCHASE ENLISTMENT CERTIFICATE

Ref No: NSIC/GP/DEL/2019/7374 Date: 21/02/2020

M/s. RESONANCE AUTOMATION AND MACHINES
PLOT No. 1131 Hari Enclave Kirti Suleman Nagar
New Delhi-110086

Name of the Proprietor: Umardip Saini
Constitution: Proprietorship

UAM DL0A0018490 Enterprise Social Class: Special Category: GENERAL

GOVERNMENT PURCHASE REGISTRATION NO: NSIC/GP/DEL/2019/0640114

Monetary Limit: ₹ 50 lakhs (1 Fty Lakh Only)

Financial Year	Annual Turnover
2017-18	25.75
2018-19	98.75
Monetary Limit	50

MSEs registered with NSIC are exempted from deposit of Earnest Money irrespective of value of Monetary Limit.

Your name has been registered as a MSE Unit eligible for participation in the Central Government Store Purchase Programme as per the Single Point Registration Scheme for the following Item(s)/Store (s)/Service(s).

Name of the Store(s)/ Service(s)	Specifications	Qualitative Capacity	Quantitative Capacity P.M.
"As per List Attached" (If Item only)			

Disclaimer:- The purchasing agencies are advised to satisfy themselves with the store details in the certificate while doing the Technical Evaluation stage before placing the tender/order on the units, certified by NSIC.

M/s. RESONANCE AUTOMATION AND MACHINES
Authorized Signatory
"Authenticity of the certificate can be checked through the web portal: www.nsicsonline.com"

Company Certificate

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STORE DETAILS CERTIFICATE

(Valid From 21/02/2020 to 20/02/2022)

ANNEXURE TO GOVERNMENT PURCHASE ENLISTMENT CERTIFICATE
NO: NSIC/GP/DEL/2019/0640114 D.T. 21/02/2020
ISSUED TO: M/s. RESONANCE AUTOMATION AND MACHINES, DELHI

PLOT No 1131 Hari Enclave Kirti Suleman Nagar, New Delhi, DELHI-110086

Sr.	Store(s)/ Service(s) Name	Specifications	Qualitative Capacity	Quantitative Capacity P.M.
1	HELMATE TESTING MACHINE	IS-4141:2015	2000X400X1600mm	15 PCS
2	HELMATE STRIP TESTING MACHINE	IS-4141:2015	1010X700X1220mm	5 PCS OR
3	QUICK RELEASE MECHANISMS HELMATE TESTING MACHINE	IS-4141:2015	1000X450X1800mm	5 PCS OR
4	UNIVERSAL TESTING MACHINE	ASTM-E1858	450X400X1600mm	3 PCS OR
5	SPECIAL PURPOSE MACHINE	MS & SS	750X1200X1500mm	1 PCS OR
6	1-LEAK TESTING MC 2-IMPACT TESTING MC 3-COMPRESSION TESTING MACHINE 4-CARTRIDGE & CERAMIC LIFE TESTING MC 5-TORQUE TESTING MC	WITH PLC & HMI PNEUMATICS ITEMS	750X1200X1500mm	1 PCS OR
8	ENVIRONMENTAL TEST CHAMBER	ISO-13485:2016	500X500X1200mm	1 PCS OR
7	HUMIDITY CHAMBER	ISO-13485:2016	450X450X1000mm	1 PCS OR
8	B.O.D. INCUBATOR CHAMBER	ISO-13485:2016	450X450X1000mm	1 PCS OR
9	HOT AIR OVEN	ISO-13485:2016	600X850X1200mm	1 PCS

BOS-Gurgaon Haryana
Comments / Note (Optional)

M/s. RESONANCE AUTOMATION AND MACHINES
Authorized Signatory
"Authenticity of the certificate can be checked through the web portal: www.nsicsonline.com"



आरोग्यम् सुख सम्पदा



Indian Institute of
Chemical Biology
a unit of C.S.I.R.



IndianOil



Napino Auto & Electronics Ltd.

Cutwell Abrasives Pvt Ltd
ISO 9001 - Certified Superior in Performance



Continental
The Future in Motion

Genus
energizing lives

talbro
Automotive Components

SOMIC ZF
SOMIC ZF Components Pvt. Ltd.

RICO
RICO AUTO INDUSTRIES LIMITED



JBM Group
Our milestones are touchstones



senior Flexonics *Napino*



MUNJAL KIRIU



RESONANCE AUTOMATION AND MACHINES

**PLOT NO. 1131 HARI ENCLAVE KIRARI
SLEMAN NAGAR NEW DELHI-110086**

**PLANT 2ND H-936 RIICO CHOPANKI
INDATRIAL AREA ALWAR RAJASTHAN-
301707**

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