



SUZUKI INSTRUMENTS

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COMPRESSION TESTING MACHINE - 1000 KN-HAND OPERATED-CHANNEL MODEL

With Improved and Novel Pump - for easy and effortless pumping, the pump becomes more and more light as the load increases.

For determination of compressive strength of cement by testing concrete cylinders, cubes. The machine works on hydraulic pressure gauge marked in 5 KN division and is fitted with maximum red pointer, in addition to the live pointer. The machines are nicely painted in hammertone gray. Complete with pressure gauge duly calibrated.

Some of the salient features are

1. High Stability
2. Self-aligning platen assembly.
3. Gauges are calibrated in Kilo Newton against certified Proving Rings.
4. Suitable for testing cubes of various sizes
5. Using special platens, bricks also can be tested.(Extra cost)
6. Hydraulic Piston hard chrome plated.

General Specifications

1) LOADING UNIT

The loading unit consists of a cross-head and base with solid channel supports connecting the base and cross-head firmly. The Hydraulic jack is fixed to the base. The platen of the machine are hardened ground and polished. The upper platen is provided with self-aligning action. To facilitate testing of various size specimens, spacer block provided.



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2) PUMPING UNIT

The hydraulic pumping unit is Manually Operated. Made of POLYHYDRON make. The load is measured on Bourdon tube type pressure gauge which is calibrated against certified proving rings. The pressure gauge is fitted maximum load pointer.

Compression Testing Machine Exported in Russia, Bangladesh, Nepal, Bhutan, Sri Lanka, Indonesia, Taiwan, South Africa, Kenya, Morocco, Egypt, Malaysia.

Technical Specification

•Pumping	: Hand operation
•Pump Speed	: Manual
•Motor	: No
•Reading	: Analog
•Least count	: 0.5% of full load
•Accuracy	: $\pm 2\%$
•Release valve operation	: Required
•Auto stop after failure of specimen	: Not available, need to stop the hand pumping
•Auto Release of Pressure after specimen failure	: Not Available, Need to release pressure manually after the completion of test
•Calculation of result	: Manual
•Holding of Max.Load	: Available
•Pace Rate or Rate of Loading indication	: Not Available
•Operator skill to control Pace Rate	: Not Applicable
•Bar Graph	: Not Available
•Multi Channel operation	: Not Available
•Load indication and Control	: Manual
•Saving of records	: Not Available
•Pen drive slot	: Not Applicable
•Real time graph	: Not Applicable
•Printer interface (Direct connectivity to printer w/o computer)	: Not Applicable
•Computer operation software and data Acquisition software	: Not Applicable
•Displacement controlled operation	: Not Available
•Modulus of Elasticity Calculation	: Not Available

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•Flexural attachment	: Not Available
•Splitting Tensile Test	: Not Available
•LAN Connectivity	: Not Available
•Auto internal Calibration without proving ring	: Not Available
•Piston over travel safety cut off	: Not Available
•Over load safety cut off	: Not Available
•Shot circuit protection	: Not Required
•Overall Dimensions	: 900 X 450 X 1040 (L X W X D) mm
•Weight (Approx.)	: 252 kg

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COMPRESSION TESTING MACHINE - 1000 KN-AUTOMATIC PACE RATE CONTROLLED

Compliance With Following International Standards:

EN 12390-4, ASTM C39, AASHTO T22, IS : 14858 (2000)

Automatic Test Execution:

Once the machine has been switched on, the specimen positioned and centered, the only required operations are

Set test parameters - including load rate:

1. Press the start button
2. Tighten the pressure valve
3. The machine automatically: starts the rapid approach; switches to the test speed once the specimen comes into contact with the upper platen; automatically stops the motor upon specimen failure
4. Release the pressure valve
5. The test execution conforming to Standards can be easily proved.
6. Working on 240V, 50-60Hz, single phase.
7. Dual stage pump assuring fast piston approach and precise test execution
8. Test execution conforming to EN 12390-4, ASTM C39, AASHTO T22
9. Controllable pace rate from 1 KN/Sec to 10 KN/Sec.
10. Auto stop after completion of each test.
11. Soft platen-to-specimen contact and smooth load rate control from the very beginning of the ramp



Frame:

1. Four column high stiffness welded frame tested for stability.
2. Heavy duty spherical seat, allowing initial free alignment at the initial contact with the specimen and automatic jamming up to the end of test.
3. Surface hardness of platen is 55 HRC, flatness tolerance 0.03 mm. Traceable certificate of surface hardness available on request.
4. Piston travel limit switch (Extra cost)
5. Emergency stop button

Salient fetchers of data manager PC software (Optional At Extra Cost.)

1. Two way communication i.e machine operates from computer and from the touch screen controller both (Stat, stop, save data and save graph)
2. Results directly saved in excel file

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3. Graph also saved in excel file
4. Capable to save customer name, other details of customer, ageing of cube moulds, identification mark of the cube mould, date and time of testing
5. Capable to print direct report from the computer
6. Capable to select different test parameters like pace rate, sample size and area from the computer (software)

Note:

Use of 3 KVA three phase servo controlled stabilizer is essential to protect the machine against voltage fluctuations. Warranty voids in case of any damage due to power fluctuation.

Technical Specification

•Capacity	: 1000 Kn
•Platen size in mm	: 200 mm Dia
•Ram Dia in mm	: 165 mm
•Ram Travel in mm	: 50 mm
•Vertical daylight in mm	: 300 mm
•Horizontal daylight in mm	: 300 mm
•Weight approx in kg	: 417 kg
•Least count	: 0.1 Kn or better
•Load indication and Control	: 4" Coloured touch screen controller
•Accuracy	: $\pm 1\%$
•Pace rate controlling accuracy	: 10%
•Pumping	: Motorized
•Pump Speed	: Dual speed
•Motor	: Stepper Motor
•Reading	: Digital
•Release valve operation	: Required
•Auto stop after failure of specimen	: Available, machine stops after completion of test
•Auto Release of Pressure after specimen failure	: Not Available, Need to release pressure manually after the completion of test
•Calculation of result	: Automatic
•Holding of Max.Load	: Available
•Pace Rate or Rate of Loading indication	: Available
•Operator skill to control Pace Rate	: Not Required
•Bar Graph	: Available

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•Multi Channel operation	: 3 channel operation possible, flexural and compression frame can be attached
•Saving of records	: Possible-10 reading
•Pen drive slot	: Optional, saves reading in excel format, Record date-time, Sr no and Peak load
•Real time graph	: Available, on controller itself
•Printer interface (Direct connectivity to printer w/o computer)	: In built
•Computer operation software and data Acquisition software	: Available at extra cost
•Displacement controlled operation	: Available at extra cost
•Modulus of Elasticity Calculation	: Available at extra cost
•Flexural attachment	: Possible, all calculations will be made automatically
•Splitting Tensile Test	: Possible, all calculations will be made automatically
•LAN Connectivity	: Available at extra cost
•Auto internal Calibration without proving ring	: Available
•Piston over travel safety cut off	: Available at extra cost
•Over load safety cut off	: Available
•Shot circuit protection	: Available

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Compression Testing Machine

TM-042

- Cement Testing
- Concrete Testing
- Refractory Testing
- AAC Block Testing
- Paver Block Testing
- Ceramic Testing
- Aggregate Testing
- Brick Testing



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Compression Testing Machine

- 1 Digital compression testing machine with manual pace rate controller (TM-042D)
- 2 Fully automatic compression testing machine (TM-042A.C.)
- 3 Fully automatic compression testing machine servo controlled (TM-042F.A.)
- 4 Hand operated compression testing machine (TM-042H.)
- 5 Electrical operated compression machine (TM-042A.)

The machines are available in following different capacities

100 kN	250 kN	500 kN	1000 kN	2000 kN	3000 kN	5000 kN
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1 Digital compression testing machine with manual pace rate controller

- The pace rate of the machine is manually controllable from 1 kN/sec to 9 kN/sec.
- The load indicator of the machine will show bar graph to control the pace rate of the machine.
- Direct reading of total applied load in kN
- Direct reading of compressive strength in N/mm² - no calculation required
- Peak hold facility
- Back light facility to observe the reading even in the dark
- Automatic internal calibration (without proving ring)
- Overload safety cut out
- Electrical over load trip facility
- Password protected calibration to prevent unauthorized manipulation
- Type of pumping : Electrical
- Least Count: 0.1 kN
- In built memory storage function to save last 10 readings
- Three phase operation (Single phase operation also possible)

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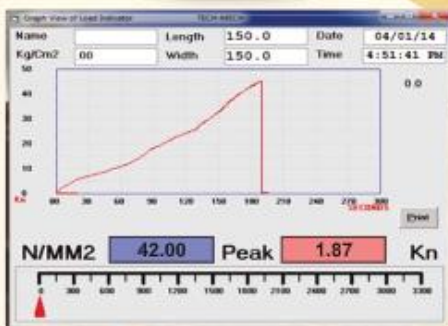
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**Two way communication to machine
i.e. machine can be start, stop and
controlled from the computer**



**Auto generation of
load/time graph.**



**Analytical software in
excel format.**

Test Results of Compressive Strength of Cement Concrete Cubes												
Entered by :			Name of Client :									
Name :			Name of Work :									
Report No. :			Ref No and Date :									
Date :			Sample Size by :									
Page :			Name of Agency :									
Date of Sample Received :			Agreement No. :									
Condition of Sample on Receipt :			Inspector's Name :									
Name of Test :			Type of Sample :									
Test Method :			No. of Sample(s) :									
Standard :			Specification of Sample :									
Date of Testing :			Grade of Concrete :									
			Environmental Condition during test :									
Sl. No.	Identity Mark	Size in mm.	Curing condition	Weight of the sample	Date of Testing	Time of Testing	Age of testing in days	Comp. load in kN	Kg/Cm ²	N/mm ²	Ave. N/mm ²	Remarks
1	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
2	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
3	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
4	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
5	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
6	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
7	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
8	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
9	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
10	10.8.15	150	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	

- RS 232 interface
- Two way communication i.e start and stop from the computer only
- Auto generation and auto save of Excel file
- Auto generation and auto save of time v/s load graph
- Flexural attachment available
- Bricks attachment available



4 Hand operated compression testing machine (TM-042H.)

- Low cost model
- Useful for mobile concrete laboratory on wheel
- Stable, easy to use and maintain
- Mainly for the machine with low capacity (1000 kN)
- Digital readout option also available

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Compression Testing Machine

5 Electrically operated compression testing machine (TM-042A.)

(Single gauge and Three Gauge options available)

- Electrical pumping
- Clear 8" analogue readout
- Model available for 1000/2000/3000/5000 KN capacity
- Flexural attachment available
- Bricks attachment available
- Over load safety cutoff
- Three phase operation
- Least count 0.5% of the full load

Frames

- Four column high stiffness welded frame tested for stability.
- Heavy duty spherical seat, allowing initial free alignment at the initial contact with the specimen and automatic jamming up to the end of test.
- Surface hardness of platen is 55 HRC, flatness tolerance 0.03 mm. Traceable certificate of surface hardness available on request.
- Piston travel limit switch (Extra cost).
- Emergency stop button.

Physical Data of load frames

Capacity in kN	100	250	500	1000	2000	3000	5000
Platen size in mm	130 dia	150 dia	160 dia	200 dia	300 dia	320 dia	320 X 320
Ram dia in mm	90	90	120	165	205	260	330
Ram travel in mm	50	50	50	50	50	50	50
Vertical daylight in mm	200	200	230	300	350	350	520
Horizontal daylight in mm	170	200	230	300	350	370	425
Weight approx in kg	350	350	450	600	760	1150	2050

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