

AXIAL LOADING MACHINES, SINGLE GAUGE

Load Frame

Load frame is steel welded fabricated. It is designed to withstand a few million times of full cycles of loading without any sign of distortion or fatigue. These frames are light in weight. The base carries a fine finished hydraulic ram and the lower platen. The top plate has the spherical seating to take care of any irregularity of the specimen surface or slight misplacement of the specimen from the central position.

Pumping Unit

Pumping unit is attached on the right hand side of the loading unit. It is a multi plunger pump submersed in the tank and is powered by 1.5 kW electric motor.

Power pack gives non-pulsating flow to the hydraulic ram. This ensures smooth loading of the specimen which can be seen by the movement of the load gauge/digital display. The flow of the oil can be precisely controlled by the strain control knob located at a convenient height. With the proper check on the oil, the life of the pumping unit and the hydraulic ram is almost as long as, life of machine.



HR44.40-W

Catalogue No.	Capacity	MaxRam Travel	Day light Clearance	Horizontal clearance	Platen size
HR44.40-W	1000kN	50 mm	500mm	275mm	256mm
HR44.90-W	2000kN	50 mm	500mm	275mm	256mm

AXIAL LOADING MACHINE WITH PEAK HOLD FACILITY ONLY, 1000KN CAPACITY

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Pumping Unit

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Power pack gives non-pulsating flow to the hydraulic ram. This ensures smooth loading of the specimen which can be seen by the movement of the load gauge/digital display. The flow of the oil can be precisely controlled by the strain control knob located at a convenient height. With the proper check on the oil, the life of the pumping unit and the hydraulic ram is almost as long as, life of machine.

Indication of load & displacement is on digital display system, which is directly indicated, in respective engineering unit. The electronic display unit is totally microprocessor based with a built in RS232 serial port. It has indication for load, peak load, displacement and pace rate indicator.

Pace rate is achieved manually by controlling the flow control knob and the system is released manually after the peak load is achieved.

Other technical Specifications :

- 8 bit Processor with multiprocessing



HRM592.301

- facility.
- LCD Panel with 4x20 characters.
- Printer facility (printer not part of the supply)
- Key board with 16 keys.
- A direct PC connection using RS 232 port connected with D39 connector.
- Flash memory of 512 KB, that can store results even if the power turns off.
- Key board has the following programmable facilities.
- The START key includes information on the Pace Rate, Load, displacement and Peak Load.
- The STOP key includes the facility of saving result of the test conducted and starting of the next test.

Catalogue No.	Capacity	MaxRam Travel	Day light Clearance	Horizontal clearance	Platen size
HRM592.201	1000kN	75 mm	500mm	325mm	300mm
HRM592.301	2000kN	75 mm	500mm	325mm	300mm



●● **HRA592.202**

AXIAL LOADING MACHINE WITH AUTO PACING,

LOAD FRAME

Load frame is steel welded fabricaed. It is designed to withstand a few million times of full cycles of loading without any sign of distortion or fatigue. These frames are light in weight. The base carries a fine finished hydraulic ram and the lower platen.

The top plate has the spherical seating to take care of any irregularity of the specimen surface or slight misplacement of the specimen from the central position. Front cover is provided, made of acrylic sheet, as a protection to the operator while at the same time giving an unobstructive view of the specimen under test.

ered by 3.75 kW electric motor. Operating on 440 Volts, 50 Hz A.C. supply. (Other voltages optional).

It has an arrangement for automatic pacing system which is achieved by the combination of advance hydraulic and electronic system. Control signal from the electronic system is passed on to the high speed proportional valve, (closed loop system) as shown in the figure which in turn controls the flow of oil into the the pacing rate constant irrespective of any change that occurs in the specimen during the process of testing. Pacing rate is set on strain or stress basis. All the set parametres are entered through computer. The machine is very simple to operate. Load is automatically released after the peak value is achieved.

Data Acquisition system have the following specifications :-

- 32 bit PCI- bus
- 12/16 bit analog input resolution
- Auto scanning channel selection upto 256 channels
- Upto 100 Khz A/D sampling rates
- 16 single ended analog input chanel
- Biopolar input signals
- Programmable gain of x1, x2, x4, x8, x16
- Input range : +/-10V, +/-5V, +/-2.5 V, +/-1.25V, +/-0.625V
- One 12-bit monolithic multiplying analog output channel
- 16 digitaloutput and 16 digitalinput channels
- 4 extended digital input and digital output channels on the 37 - pins connector
- 3 independent programmable 16-bit down counters.
- Three A/d trigger modes : software trigger, programmable pacer trigger, and external pulse trigger
- Pre-trigger control
- Interanal DC-to-DC converter for stable analog power source.



HRA592

Specifications

- Analog input (A/D) Converter
- B.B. ADS 7805 ADS 7804, successive approximation type
- Resolution : 12 bits/16 bits
- Conversion time : 8 Mic. Sec.
- Overvoltage protection: Continuous +/-35V maximum
- Data throughout : 110 Khz (maximum)
- Pace rate is achieved in accordance with the programmed value as per IS 14858 and BS :1881

OPTIONAL ACCESSORIES

- Pantium IV - 3.0Ghz or Higher
- 512MB RAM, 80GB HDD, CD Writer,
- Standard Key Board, Scroll Mouse, Colour Monitor, Deskjet / Laser Printer (If required)

Pumping Unit

Pumping Unit is kept on the left hand side of the loading unit. It is a multi plunger pump submersed in the tank and is pow-

Features :-

The PCI Bus advanced data acquisition card provides the following advanced features.

Note: Computer with latest configuration will be supplied

Catalogue No.	Capacity	MaxRam Travel	Day light Clearance	Horizontal clearance	Platen size
HRA592.201	1000kN	50 mm	500mm	280mm	256mm
HRA592.202	2000kN	50 mm	500mm	280mm	256mm