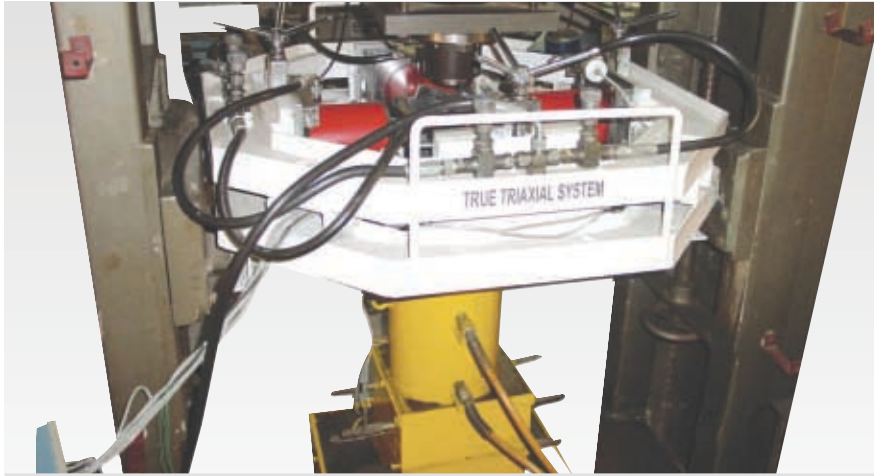


# TRUE TRIAXIAL SETUP

## ●● HR72.550

**True Triaxial Test Equipment**  
 (Maximum Sample Size 200 x 200x  
 200 mm )



**HR72.550**

For realistic evaluation, it is essential that paving material be tested under simulated field conditions. To simulate this condition True triaxial set up has been developed at Heico that is capable of independent application and control of normal stresses in three mutually perpendicular directions. With the slight modification in the software the system can also be used for modulus of resilient deformation.

The equipment comprises of: -  
 LOADING UNIT  
 POWER PACK  
 CONTROL AND DISPLAY UNIT

### LOADING UNIT

Capacity	1000kN
Vertical clearance	210mm
Horizontal clearance	210mm
Clearance in 'z' axis	210mm
Capacity of hydraulic ram	1000kn
Travel of ram	100mm
Capacity of ram for 1 and 2	300kN
Travel of the rams for 1 and 2	50mm

Minor adjustments are given for 1 and 2 rams both in 'y' and 'z' axis for the proper alignment.

### POWER PACK

It is a combination of advance hydraulics and electronics. The system have three tandem pumps powered by a single prime mover operating on three phase power sup-

ply. There are three independent servo valves controlling 1, 2 and 3. The principal of operation is a signal equivalent to constant load for 1 and 2 is generated in the signal generator and is processed along with the machine response signal in the P.I.D Controller. The hydraulic power given by the power pack keeps the load with in ±2% of the preprogrammed load

Other technical specifications of the system are:

Horse power of the prime mover :	11 kw
Capacity of the tank :	100 litres
Maximum operating pressure :	250bars
Capacity of flow pump :	15/5/5 lpm
Heat exchanger shell and tube type	
Protections like over heating, over loading running time are provided as standard	
6 microns high pressure line filter, return line filter and suction filter are provided as standard.	

### CONTROL AND DISPLAY UNIT

The principal of operation is that a signal equivalent to constant load for 1 and 2 is generated in the signal generator and is processed along with the machine response signal in the P.I.D. The hydraulic power given by the power pack keeps the load with in + 2% of the preprogrammed load.

It is state of the art control and display unit that controls the load and displacement as per the programmed signal .A signal is generated in the signal generator and is processed at the speed of 10khz in the P.I.D controller. Both the signals from the signal generator and the machine response signal are processed and the resultant signal controls the servo valve to keep the pre-programmed values with in the limits of +2%. All three parameters that is 1, 2 and 3 are independently controlled through the P.I.D controller and the servo valves. 2 and 3 are kept constant within the limits of +1%. Data is acquired in the dedicated computer supplied along with the system.

- 32 BIT PCI-BUS
- 12- BIT ANALOG INPUT RESOLUTION
- AUTO-SCANNING CHANNEL SELECTION
- UP TO 256 CHANNELS
- UPTO 100 KHZ A/D SAMPLING RATES
- 16 SINGLE ENDED ANALOG INPUT CHANNELS
- BIOPOLAR INPUT SIGNALS
- PROGRAMMABLE GAIN OF X1, X2, X4, X8, X16
- INPUT RANGE : +/-10V, +/-5V, +/-2.5V, +/-1.25V, +/- 0.625V

### SPECIFICATIONS OF DATA ACQUISITION CARD :

ANALOG INPUT (A/D) CONVERTER	
B.B ADS 7805 ADS 7804, SUCCESSIVE APPROXIMATION TYPE	
RESOLUTION	: 12 BITS/16 BITS
CONVERSION TIME	: 8 MICRON SEC.
OVERVOLTAGE PROTECTION	
	: CONTINUOUS +/- 35 V MAXIMUM
DATA THROUGHPUT	
	: 110 KHZ (MAXIMUM) given by the power pack keeps the load with in 5% of the preprogrammed load.

### Computer (PIV) with Printer

#### SENSORS

LOAD CELLS	1000kN	1No.
	300kN	2Nos
DISPLACEMENT SENSOR	50 mm	4Nos.