



## TWIN HYDRAULIC RAM SYSTEM HPM3A



Year 2  
study

1 to 2  
participants

Space required  
1(L) x 1(W)m

### Features

- Self-contained, easy to use
- 700 Bar, maximum, hand pump
- Self-sealing hose fittings
- Ram carriage easily moved and secured with hand wheels
- Mobile hydraulic table includes hand pump
- 4 metre connecting hoses and digital display
- 250mm ram extension easily fitted
- Ø50mm "flat" contact point
- Steel ball creates "point" contact

### Description

Two double acting hydraulic rams are mounted on their own individual travelling carriages. The wheels of the carriage roll on the bottom flanges of the horizontal upper cross member of the HPM1 "MAGNUS" Universal Test Frame and clamping screws and hand wheels are provided to lock the carriage where required. This enables the loading span to be varied accordingly. The hydraulic rams are simultaneously operated using a 700Bar hand pump, which is mounted on a mobile table. A manually operated shut off valve at the end of the hand pump controls the travel direction of the rams, and stabilisation of the load. A digital pressure indicator shows the system pressure, and hence ram pressure via a transducer. The digital display is calibrated in "psi". The digital indicator can be moved around the hydraulic table and tilted to give a better viewing angle. The hydraulic table has an integral shelf to store accessories. Each ram is connected using two 4 metre flexible hoses with self-sealing couplings are provided. One hose for the raising side and another for lowering. The stroke of the hydraulic rams are upto 250mm. An additional extension of 250mm is supplied for each ram and can be fitted to bring the test specimen closer to the rams. Additional accessories are also supplied to give both a "flat" contact point and "point" contact point.

### Learning capabilities

- Bending Tests
- Load Tests
- Compression Tests
- Single point load
- "Full Scale" Testing
- Arches
- Frames
- Roof Trusses
- Timber Grillage

### Technical Specification

- 1 x Hand pump, 700 bar maximum working pressure
- 2 x Double acting ram, stroke, approximately 250mm
- 4 x Hydraulic hose, 4 metre long
- Self-sealing hose fittings
- Digital pressure indicator, psi calibrated
- Pressure sensor, 0 to 700Bar rating
- Ram end cap: Ø50 x 50(L) mm
- Ram extension: Ø50 x 250(L) mm
- Steel ball: Ø25.4mm
- Thread: M42 x 1.5mm

### Essential Ancillaries

- HPM1: "MAGNUS" Universal Test Frame

### Recommended Ancillaries

- HPM3 or HPM3A: Single or Twin Hydraulic Ram System
- HPM15: Data Acquisition System and Software
- HPM20: Dial Gauges and Holders set
- HPM6/1: Plane Frame
- HPM6/1A: Plane Frame Fitted with Strain Gauges
- HPM4/1: (Manual Only) Ultimate Moment of a Reinforced Concrete Beam
- HPM4/2: (Manual Only) Crack Control in a Reinforced Concrete Beam
- HPM5/1: (Manual Only) Stress Grading of Timber Joists

### What's in the Box?

- 1 x Hydraulic table assembly
- 2 x Ram carriage assembly
- 2 x Ram end cap
- 2 x Ram extension
- 2 x Ball seat top and bottom
- 2 x Steel ball
- 1 x Spare oil
- Instruction manual
- Packing list
- Test sheet

### You might also like

- HPM3: Single Hydraulic Ram System
- HSM58: Universal Materials Tester

### Weights & Dimensions

- Ram Carriage: 65(L) x 31(W) x 40(H) cm; weight: 70 kg
- Table: 85(L) x 61(W) x 85(H) cm; weight: 45 kg
- Gross Weight: 300 kg (approx)
- Packing Case Dimensions: 200(L) x 107(W) x 133(W) cm (approx)

### Essential Services

- Level concrete floor
- Good lighting
- 220/240V, 50Hz, single phase, live, neutral and earth

### Operational Conditions

- Storage temperature: -10°C to +70°C
- Operating temperature range: +10°C to +50°C
- Operating relative humidity range: 0 to 95%, noncondensing

### Ordering information

To order this product, please call PA Hilton quoting the following code: HPM3A

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS