

SPECIFICATIONS OF MAST SYSTEM FOR STRUCTURES & CONCRETE LAB-NBC QUETTA

| Serial | Multi-Axial Sub Assemblage Test System (MAST) Equipment Features | Qty. | Country of Origin |
|----------|--|----------|--|
| 1 | Single-Ended Servo Hydraulic Actuator, 150kN 150 kN fatigue rated double acting single ended low friction actuator for quasi static test with suitable operating pressure, piston stroke is 500 mm (+/- 250 mm) with manifold and one 40 lpm capacity servo valve to achieve displacement rates of 1mm/min to 8.5mm/sec. | 1 | Western Europe / North America / Japan/ Turkey |
| 2 | Single-Ended Servo Hydraulic Actuator, 300kN 300 kN fatigue rated double acting single ended low friction actuator for quasi static test with suitable operating pressure, piston stroke is 500 mm (+/- 250 mm) with manifold and one 40 lpm capacity servo valve servo valve to achieve displacement rates of 1mm/min to 8.5mm/sec.. | 1 | |
| 3 | Hydraulic Double Acting Jack capacity 100T Load control Range 0.5 kN to 50kN /sec and Displacement control 0.1mm to 500mm/min, Suitable for dynamic loading upto 4Hz frequency and amplitude can be adjustable within the speed limits. | 1 | |
| 4 | Hydraulic Power Unit: Appropriate Hydraulic Power Unit compatible to serial '1' & '2' with suitable hydraulic pump driven by electric motor with manifold and pressure limit valve, oil tank with necessary joints and hose Unit to be equipped with necessary accessories required for operation | 1 | |
| 5 | Accumulator Unit: If required small accumulators can be provided separately for each actuator. | 1 | |
| 6 | Hydraulic Power Unit if required to be equipped with necessary high performance water cooled chiller unit to keep hydraulic oil temperature normal during test so say to carry out testing at temperature up to 40 degree C. | 1 | |
| 7 | Control Unit: Advanced Close-loop electronic controller, The electronic control unit of system with 5000 samples per second and data acquisition speed. Accurate synchronization between frame and sensors by adjustment of PID or close loop configuration. The control unit to be equipped with 16 additional channels other than the control channels or control unit synchronized with other data loggers of 16 channels. Ethernet and usb connection for PC communication. The additional channel of electronic control unit to be feasible to attach and control extensometer, LVDT, strain gauge, load cell, SSI and TTL type sensors. | 1 | |

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| 8 | Gantry Crane: 10 ton capacity of single hook operated on independent frame with its independent control system, The clear hook height to be 20 ft. The width of the frame not less than 32 ft. | 1 |
| 9 | Strong floor with basement clear size 16 ft x 16 ft, with appropriate design and support system. The strong floor to contain through holes at clear distance of 1 ft center to center. Minimum thickness of strong floor to be considered as 30 inches. | 1 |
| 10 | Accessories: LVDTs 50 mm – 4, LVDTs 100 mm – 4, LVDTs 200 mm – 4, Load cell 100 ton – 1, load cell 50 ton – 2. Load cell 30 ton – 4, Uniaxial 10 mm 120 ohm-100, 20 mm 320 Ohm – 100 | |
| 11 | Steel shed of size 36 ft x 50 ft and 38 ft height. The walls to be insulated and protect the inner environment from cold and hot environment. | 1 |
| 12 | Data logger 16 channels to synchronized with control unit of quasi testing system. The logger to be able to connect to attach and control extensometer, LVDT, strain gauge, load cell, SSI and TTL type sensors. | 4 |
| 13 | Suitable reaction frames for area (4m x 4m) and height 4m to be designed and provided to enable application of 100 ton lateral cyclic and 100 ton vertical cyclic loads. In design appropriate load safety factors to be considered. Vendor to submit design along with quotations | 1 |



DLQEC

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