

## MHAISAL LIFT IRRIGATION SCHEME

MAHARASHTRA KRISHNA VALLY DEVELOPMENT CORPORATION PUNE 411011

(A GOVT. OF MAHARASHTRA UNDERTAKING)

Rates for the manufacturing & supplying, erecting & testing of hydraulic power pack unit @ Mhaisal Stage I & II as shown below are invited from contractors having experience of the said work for estimate purpose. Please submit the rate to The Executive Engineer, Takari Mechanical & Electrical Division, Warnali, Sangli 416415 Maharashtra within 10 days from date of publishing.

Item No.	Description	Qty.	Unit
1	<p>Hydraulic Power Pack –</p> <p>Manufacturing, supplying, erecting &amp; testing of hydraulic power pack unit @ Mhaisal Stage I &amp; II used for actuation of pump discharge valve which consists of hydraulic pump, electric drive motor, oil reservoir, solenoid, direction control valves, switches, pressure gauges, flow regulators, throttle valves, filters etc. with adequate safety means for protection excluding of electric control panel. The operation requirements are as per attached sheet.</p> <p>For detail specification &amp; other technical reference sample of hydraulic powerpack is available @ site.</p>	1	No

This information is required for the purpose of framing of working estimates and hence the urgency.  
This Budgetary offer is also available on website [www.mahayantriki.gov.in](http://www.mahayantriki.gov.in)

(M. M. More)

Executive Engineer,  
Takari Mech. & Elect. Division,  
Sangli.

- i) In the Closed position, the Valve shall be held closed by a substantial Counter weight.
- ii) Start-up sequence of Pump will initiate powered opening of P.D. Valve by Hydraulic Actuator. The Actuator shall be adequately sized to open or close the Valve, against an Unbalanced pressure equal to Pump Shut off Pressure in either direction, within the Time period as specified.
- iii) Valve will remain open during normal running of the Pump. No Disc Flutter will take place in this position, nor will there be any Creep in this Fully open position. A Limit switch be provided (set at about 3° from Open position) to sense the Creeping, which will start the Oil pump and return the Valve to Fully open position.
- iv) When the Valve is fully open, and Electric supply in the Valve Control system fail, the P.D. Valve will remain open, while the V.T. Pumps continue to deliver Water. In case of Hydraulic failure, Pressure switch will actuate an Alarm; and Counter weight/lever shall have to be supported by external means. An Eyebolt shall be provided in the lever for this purpose.
- v) Normal operational Shut down will enable Valve to close at a Slow closing rate, which shall be adjustable between 30 to 60 Seconds.
- vi) In case of any fault causing Pump Motor trip, the corresponding P.D. Valve shall start closing at a Fast rate initially, and thereafter at a Slow rate, in a manner described under Clause 9.2.3.1. The Valve should close automatically, in the event of Flow Reversal, avoiding excess Pressure rise. Emergency closing Solenoid Valve shall be provided, in addition to Normal closing Solenoid Valve, and shall be working on a separate stand by Power supply.
- vii) Provision for Stand by Manual operation, through a Hand pump, shall be made.

- viii) A Locking device will be provided, so that the Valve can be maintained in Open/Shut position, during Maintenance and Inspection.
- ix) The Electrical controls for the Valve, such as Relays, Contacts and Fuses, shall be housed in the Electrical Control panel, with a facility of Local/Remote operations from Control Desk.
- x) Each Valve shall have four Limit Switches, each capable of being set at any point, between Full Open to Full Close position, to meet desired functions. In addition, One more extra Limit Switch to be set at an Intermediate position, shall be provided. Each Limit Switch shall have 2 'NO' (Normally Open) and 2 'NC' (Normally Closed) Contacts.
- xi) Each control panel of P.D. Valve shall include but not limited to the below mentioned components.
  - i) Air break push button operated Direct On Line (D.O.L.) Starter with overload trip, single phase preventor, 2 Nos 'NO' and 2 Nos. 'NC' contacts.
  - ii) Indicating lamps for indication of P.D. valve motor 'ON/OFF', valve opening etc.
  - iii) Timer Relay for opening the P.D. valve after the main motor reaches its full speed. Necessary interlock is to be provided between main motor breaker and opening/closing of the P.D. valve as mentioned in clause No. 9:8:5.
  - iv) Local/Remote Selector Switch.
  - v) Push buttons to open and close the P.D. valve.