

## HYDRAULIC JACKS

Hydraulic jacks find variety of application in Civil and Structural Engineering such as plate Bearing and CBR tests on soils, Deformation and Insitu Shear tests on foundation rock strata, Elastic Modulus-tests on mass concrete and for pre-stressing steel wire in pre-stressed concrete.

HEICO jacks are simple and compact in design and easy to operate. Jacks upto a capacity of 500 kN are provided with single plunger pumping units and those of capacity more than 500 kN are provided with double plunger type pumping units. Each jack is provided with a calibrated pressure gauge of appropriate capacity.

The different types of Hydraulic Jacks manufactured by HEICO are detailed below:-

Note : All hydraulic jacks mentioned below have hand operated pumping units only.

### Bottle Type Jacks

These are fully self contained jacks with integral pumping units and oil reservoirs. A detachable hand lever is provided for operation of pump. A 10 cm dia calibrated load gauge is supplied with each jack. Lifting handle is also provided on the jack.

| Cat. No. | Cap    | Sensitivity |
|----------|--------|-------------|
| HJ54.05  | 50 KN  | 0.5 KN      |
| HJ54.10  | 100 KN | 1.0 KN      |
| HJ54.15  | 200 KN | 1.0 KN      |
| HJ54.20  | 250 KN | 2.0 KN      |
| HJ54.25  | 500 KN | 2.0 KN      |

### Remote Controlled Jacks

These Jacks have a separate pumping unit connected to the jack by one meter long detachable high pressure flexible hose pipe. The jack, pump & hose pipe can be separated for easy transportation and reassembled at site. Jacks upto 500 kN capacity are supplied with hand operated single plunger pumping units and those above 500 kN are supplied with double plunger pumping unit.

A 100 mm dia pressure gauge is provided with jacks upto 500 kN capacity and 200

mm dia pressure gauge for those of higher capacities.

| Cat. No. | Cap     | Sensitivity |
|----------|---------|-------------|
| HJ54.30  | 50 KN   | 0.5 KN      |
| HJ54.35  | 100 KN  | 1.0 KN      |
| HJ54.37  | 150 KN  | 1.0 KN      |
| HJ54.40  | 200 KN  | 2.0 KN      |
| HJ54.45  | 250 KN  | 2.0 KN      |
| HJ54.50  | 500 KN  | 5.0 KN      |
| HJ54.55  | 750 KN  | 5.0 KN      |
| HJ54.60  | 1000 KN | 5.0 KN      |
| HJ54.65  | 1500 KN | 5.0 KN      |
| HJ54.70  | 2000 KN | 10.0 KN     |
| HJ54.75  | 3000 KN | 10.0 KN     |
| HJ54.80  | 5000 KN | 25.0 KN     |

### Remote Controlled Jacks with Lock nut

These Jacks are similar to remote controlled hydraulic jacks described earlier, but their rams are threaded and provided with a lock nut. After lifting the load the lock nut is so adjusted that it rests firmly on the top of the cylinder and the whole load is taken up by the cylinder, thus eliminating any possibility of its coming down in case of accidental failure of the hydraulic mechanism or seal of the jack.

This also enables the holding up the load for long duration without straining the



HYDRAULIC JACK WITH LOCK NUT

hydraulic system and ensures the safety of workers working underneath supported heavy structures like, heavy beams, launching girders of bridges, supported structures in tunnels etc.



## Retractable Hydraulic Jacks

These jacks are specially designed for use in inverted position i.e. for loading from top to bottom. A base plate with holes is provided in the jack to fix it with a loading frame of appropriate capacity. A retracting spring is incorporated in the jack and ram assembly which pulls the ram back into the jack cylinder after the release of the load. The pumping units are similar to the ones supplied with remote controlled hydraulic jacks listed from HJ54.30 to HJ54.80.

| Cat. No. | Cap     | Sensitivity |
|----------|---------|-------------|
| HJ54.145 | 50 KN   | 0.5 KN      |
| HJ54.150 | 100 KN  | 1.0 KN      |
| HJ54.155 | 150 KN  | 1.0 KN      |
| HJ54.160 | 200 KN  | 2.0 KN      |
| HJ54.165 | 250 KN  | 2.0 KN      |
| HJ54.170 | 500 KN  | 5.0 KN      |
| HJ54.175 | 750 KN  | 5.0 KN      |
| HJ54.180 | 1000 KN | 5.0 KN      |
| HJ54.185 | 2000 KN | 10.0 KN     |

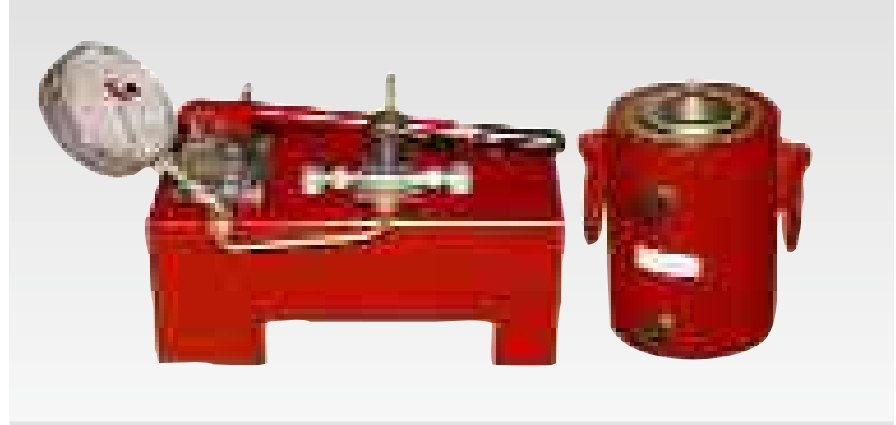
## Pre-stressing Jacks

These specially designed jacks find extensive application in the field of pre-stressed concrete. They can be effectively used for tensioning of wires, cables or stands upto the designed capacity and are ideal for jerk free release of load after pre-stressing operation is over. A specially designed double action hand operated pump is supplied with these jacks. Load gauge is not supplied as standard but can be provided at extra cost if requested. Two jacks can be operated simultaneously or individually with these pumping units.

| Cat.No.  | Capacity |
|----------|----------|
| HJ54.190 | 500 KN   |
| HJ54.195 | 750 KN   |
| HJ54.200 | 1000 KN  |

## Central Hole Jacks

These jacks are specially designed for pull out tests on foundation bolts, rock bolts or the like and are extensively used by Structural Engineers and Research Institutions. These jacks have a hole in the centre and are designed for dual operation. The hand pump is specially designed with



HYDRAULIC JACK

two control lines i.e. one for extraction and the other for retraction. Separate control valves are provided. A calibrated load gauge is provided with each jack to read the load directly. Lifting handles are provided on jacks and pumps for ease of transportation.

| Cat. No. | Cap     | Sensitivity |
|----------|---------|-------------|
| HJ54.205 | 100 KN  | 1.0 KN      |
| HJ54.210 | 250 KN  | 2.0 KN      |
| HJ54.215 | 500 KN  | 5.0 KN      |
| HJ54.220 | 1000 KN | 5.0 KN      |

**Note :** The standard size of the central hole is 25 mm for 100 kN and 250 kN jacks and 50 mm for 500 kN and 1000 kN jacks. Jacks with other sizes of hole can be designed and supplied on special request.

## Motorised Pumping Units

All hydraulic jacks described above are provided with hand operated pumping units as standard.

Our motorised pumping units can be used with remote controlled jacks when used in the laboratory or at a place where power supply is available. Each unit is provided with a pressure gauge and a manually operated valve to control the rate of loading. Operates on 440 v, 50 Hz, 3 phase supply. Multi-Control Type Motorised Pumping Unit Multi-control versions of motorised pumping units are also manufactured by HEICO. These will operate a gang of jacks where distributed loading is desirable. They can be designed to operate from one to 12 jacks simultaneously or individually. Each jack is

provided with an isolating valve, pressure gauge and pressure line. A load control valve is provided in the pumping unit. Suitable for operation on 440 v, 50 Hz, 3 phase supply.

**Note :** All the pressure gauges provided with the jacks are direct load reading type and calibrated at our works against standard proving rings test by National Physical Laboratory or by NCCBM.

- i) Jacks as per customer's specification can also be manufactured and supplied.
- ii) Pumping units suitable for operation on 220v, 50 Hz, single phase supply can also be manufactured if specially ordered.
- iii) Spate load gauges and flexible hoses can be supplied for all types of jacks at extra cost.