



## HYDRAULIC BENCH



**DL DKL014**

This hydraulic bench essentially includes a water tank and a centrifugal pump which provides a water flow that can be controlled and measured. The basic hydraulic bench is a simple, mobile, self-contained module that allows a supply of "hydraulic energy", i.e. an accurately controlled and measurable flow of water, useful as base support and feeding for all the modules of our fluid mechanics laboratory. It basically includes two collecting tanks, a centrifugal pump, a flowmeter, a mobile frame work on wheels, a set of valves and piping.

The bench includes two volumetric tanks:

- the upper tank has a 40 liters capacity
- the lower tank has a capacity up to 100 liters

In order to grant accurate measuring of the flow, the upper tank includes a flow meter adjusted to 0 – 8 liters short intervals, and with adjustment of 0-40 liters on longer intervals. The lower tank includes a meter for minimum and maximum flow, in this way it is possible to perform measurements of small and big flows with great accuracy.

In addition, the lower tank includes a drain valve to flush the content in easy and quick way whilst the upper tank includes a drain plug that can be used to retain or flush the flow.

The lower tank of the hydraulic unit has also a cap that can prevent the presence of dust and dirt in order to maintain ideal water quality for longer periods; this will also avoid the presence of chokes in the hydraulic circuit.

With reference to the connection method of the didactic equipment, this bench includes quick coupling nuts supplied with 2 meters flexible hose in order to allow simple and quick connection of the systems to be used, and through the flexible hose, students can dispose and configure the elements of this didactic system.



# FLUID MECHANICS



The bench also includes a interchangeable pipe segment where students can install many accessories. The hydraulic bench includes a 160 l/min pump; its flow can be adjusted through a choke valve, in order to provide the right flow for each test.

The hydraulic bench includes also:

- suitable section for the connection of the different accessories;
- 160 l/min pump, which flow can be adjusted through a check valve in order to provide the suitable flow for each test.

## PERFORMABLE EXPERIMENTS:

- Calibration of a volumetric tank.
- Flow measurement with volumetric tank.

## TECHNICAL DATA

### Pump characteristics:

- Maximum manometric head: 23 T.M.H.
- Volume 20 / 160 l/min
- H 21 / 10 T.M.H.
- H max: 23 T.M.H.
- H min: 10 T.M.H.
- Power consumption: 750 W (1HP)
- Max power: 950 W
- Motor speed: 2,900 rpm

### Tanks:

- Lower tank capacity: 100 liters (250 liters optional)
- Vertical manometers for level measurements and calibrated level meters
- Upper calibration tanks:
  - From 0-8 liters
  - From 0-40 liters

### Requirements:

Single Phase Power Supply