



## PIPING CIRCUITS



**DL DKL041**

This system is designed to study and analyze of flow through piping circuits, it grants to students the possibility to compose different configuration performing therefore a wide range of practical exercises. The configurations setup is quick and simple as closing and opening valves and there is no need of installing and removing any piece of pipe or accessories, the system includes several double sealing nipple couple in order to avoid any possible water leakage during connecting and disconnecting operations.

This equipment is a complete solution for all kinds of configurations that can be found in piping systems, from simple to complex set up with easy use and reduced maintenance.

### HIGHLIGHTS

- Study of all possible configurations of a piping system.
- Easy to rearrange, without the need of installing and removing any piece of pipe or accessories.
- Pressure measuring points with double closure mechanism upstream and downstream.
- Bourdon type, water column and digital differential pressure gauges.

### PERFORMABLE EXPERIMENTS

- Piping modeling. Calibration of each component and segment, so the user is able to determine the flow on each corresponding element.
- Measurement and testing of pressure and flow losses in a piping circuit fed at one end.
  - With flow outlet
  - Without flow outlet
- Measurement and testing of pressure and flow losses in a piping circuit fed on both ends.
- Measurement and testing of pressure losses and equivalent arrangement of different diameters of pipes in series.
  - With 2 different diameters
  - With 3 different diameters
  - With 4 different diameters



# FLUID MECHANICS



- Measurement and testing of flows and pressures along different kinds of existing circuits.
  - Branched circuit
  - Mesh circuit
  - Mixed circuit
- Employment of diaphragm as a meter element.
- Testing of working pressure along the installation.
- Employment of different kinds of pressure gauges:
  - Water column
  - Digital differential pressure gauge
- Bourdon type
  - Manometer
  - Vacuum pressure gauge
- Plot of characteristic pump curve

## TECHNICAL DATA

- Group A pipes
  - inner diameter = 21.2mm
  - outer diameter = 25mm
- Group B pipes
  - inner diameter = 20.6mm
  - outer diameter = 22mm
- Group C pipes
  - inner diameter = 13.8mm
  - outer diameter = 15mm
- Group D pipes
  - inner diameter = 45.2mm
  - outer diameter = 50mm

Pressure test points:

- 40mm minimum distance between measuring point and any accessory.
- Quick fittings with double closure.

Pressure gauges:

- Water column pressure gauge, measure range 1m water column
- Digital differential pressure gauges ( $\pm 7000$ mbar)
- Bourdon manometer, measure range 0 / 25m water column
- Bourdon vacuum gauge, measure range -76 cm Hg / 25 m water column

Dimensions:

- 2,000 x 1,300 x 200 mm
- Equipment alignment: vertical

Requirements:

Hydraulic bench DL DKL014 or hydraulic group DL DKL011, not included in this item.