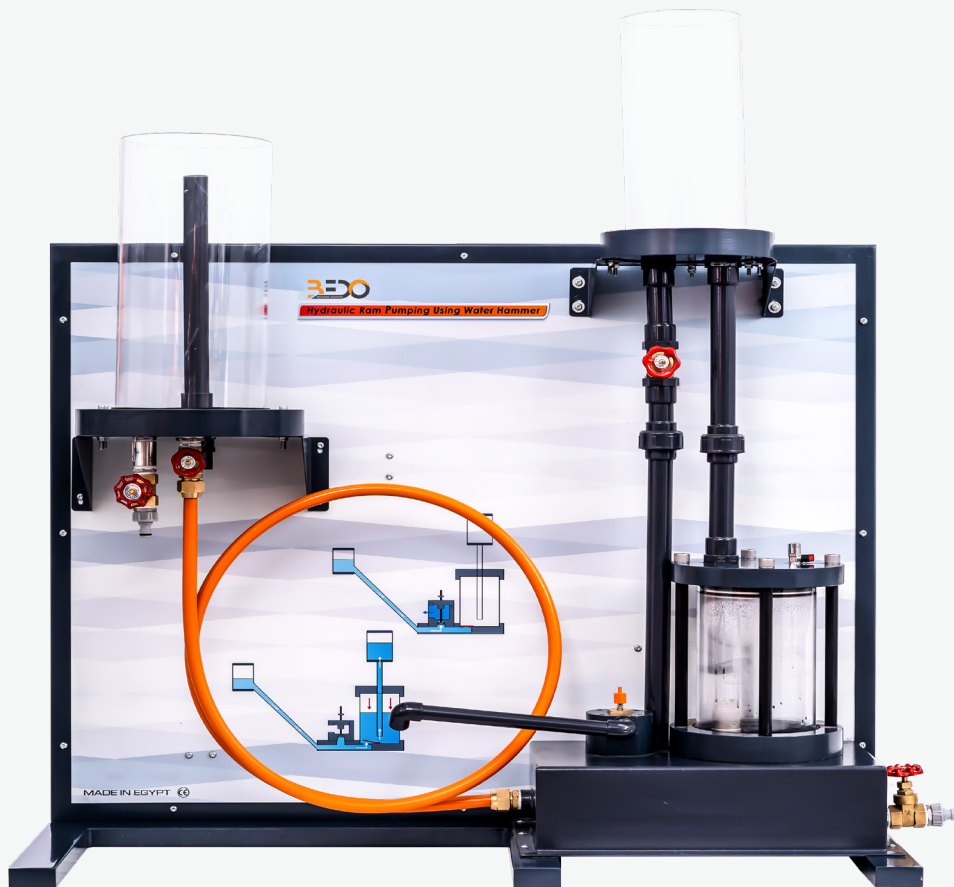


Hydraulic Ram-Pumping Using Water Hammer

Overview

This educational unit demonstrates the formation and effect of water hammer and how a hydraulic ram works. The educational unit helps students to study pumping using water hammer.



Specifications

- The educational unit demonstrates the formation and effect of water hammer.
- The unit includes a variable overflow tank that is used as a water source.
- The tank with a check valve and an air volume is used as an air vessel.
- The educational unit also contains a waste valve with adjustable lift, it closes cyclically due to flow force of the water.
- The water is fed to the ram via a long pipe.
- The air volume in the air vessel is varied by a vent valve.

Experiments

- Effect of air volume in the air vessel and the flow velocity on the pump behavior.
- Function of air vessel in reducing hydraulic shock

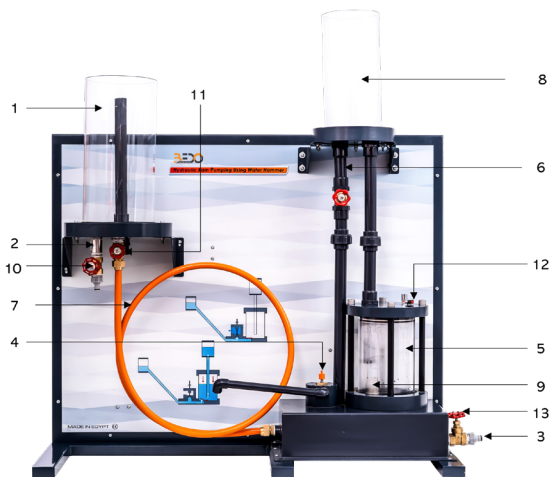
- Uses water hammer effect to pump water
- Principle of a ram and efficiency analysis
- Study formation and effect of water hammer

Technical Data

- 3 x transparent tank
- copper circule tube
- PVC transparent pipes and fitting
- Schematic of the experiment
- 1 x bleed valve

- 1 x drain valve
- 1 x Check valve
- Beaker: 3 ltr
- Stop watch: 0:0:0 to 1:0:0

Components



1	Inlet Tank with Fixed Overflow	2	Water Connection
3	Water Discharge	4	Step action valve
5	Air Vessel with Air Volume	6	Riser
7	Pipe	8	Elevated Tank
9	Check Valve	10	Inlet valve to the Inlet Tank
11	Outlet from the Inlet Tank	12	Vent Valve
13	Drain Valve		

Scope of Delivery

- Hydraulic Ram-Pumping Using Water Hammer (FM - 008)
- Hard copy user manual

Required of Operation

- Main Hydraulic Bench (FM-001)

Options

- Digital Content (BI-01)