# Hydraulic Ram Pump

# (EDC-FM-124)


## EXPERIMENTAL DATA:

- Determine creation and effect of water hammer.
- Principle of a ram.
- Purpose of an air vessel.
- Effect of air volume in the air container and the flow velocity on the pump performance.
- Efficiency analysis.

## DESCRIPTION:

The apparatus can be used to demonstrate the creation and outcome of water hammer and to study how a hydraulic ram works. The water is fed to the ram via a long pipe at a gradient.

Snappishly disturbing the water flow can cause water hammer in the pipeline. This generally unsought effect is cast-off specifically in special equipment (hydraulic ram) to raise water to a developed level. Unlike conventional pumps, no additional mechanical energy is compulsory.

## SPECIFICATIONS:

- Water Supply and Flow rate measurement using base Module EDC-FM-100.
- Creation and effect of water hammer.
- Fixed overflow tank is used as a water foundation.
- High tank with variable pump head.
- Waste valve with changeable lift, closes cyclically due to flow force of the water.
- Tank with non-return butterfly valve and air volume is used as an air vessel.
- Air volume in the air vessel is varied by vent valve.

## DIMENSIONS AND WEIGHT:

- L x W x H (mm): 1200 X 650 X 1350 approx.
- Weight: 60 kg approx.

## SCOPE OF DELIVERY:

- 1 x EDC-FM-124
- 1 x Instructional Manual


## TECHNICAL DATA:

**Hydraulic Ram Pump:**

- **Maximum Head:** 300mm
- **Maximum Flow Rate:** 50L/hr
- **Supply Head:** Transparent PMMA
- **Discharge Head:** Transparent PMMA
- **Dimensions:** Minimum 1000x600x1300mm (LxWxH)
- **Weight:** Approx. 45kg

**Base Module Technical Data:**

- **Pump:**
  - **Power Consumption:** 370W
  - **Maximum Flow Rate:** 50L/min
  - **Maximum Head:** 35m
  - **Maximum Pressure:** 500mBar
- **Storage Tank:**
  - **Capacity:** Minimum 180L
- **Measuring Tank:**
  - **At Large Volumetric Flow Rates:** 40L
  - **At Small Volumetric Flow Rates:** 10L
- **Flow Rate Measurement:**
  - **Type:** Electronic sensor with LCD display
  - **Display Unit:** L/min
  - **Resolution:** 0.1L/min