

Gear Pump Experimental Unit

Overview

The gear pump kit is a bench top educational unit which is, designed to demonstrate the operating behavior and the most important characteristic variables of gear pumps. The unit features a closed circuit with a tank and a gear pump with variable speed via frequency converter.



Specifications

- The educational unit demonstrates the functioning and operating behavior of a gear pump.
- The pump gears are mounted in a transparent housing and can be observed during operation.
- The flow rate is adjusted by a needle valve. the head is adjusted by an overflow valve.
- Oil is used as the medium.
- The experimental unit is fitted with sensors for pressure at the inlet and outlet of the pump and temperature at inlet is measured too.
- A flow meter is used to measure the flow of the viscous liquid
- The educational unit is provided with a USB port to be connected to PC.
- The unit control panel includes ON/ OFF switch, Gear Pump On/ Off Switch,

Emergency Switch, Gear Pump Speed Control Switch, Control Mode selector.

- The educational unit can be operated either manually or with the software.

- The interactive software allows monitoring various parameters of the gear pump operation and observing the characteristic curves generated automatically.

Experiments

- Gear Pump Characteristic Curve.
- Pressure Difference vs. Flow Rate Curve at Different Speeds.
- Relationship between Head and speed.

Technical Data

- Inlet Pressure Sensor: -1 to 1 bar.
- Outlet Pressure Sensor: 0 to 16 bar.
- Electric Motor Power: 370 W.
- Flow Rate: 0.5 to 50 L/min.

Components



1	Tank	2	Electric motor
3	Gear pump	4	Flow Meter
5	Drain cock	6	Needle valve
7	Relief Valve	8	Pressure Sensor
9	Indication panel	10	Indication buttons
11	Control mode switch	12	Gear pump O/I
13	Speed control knob	14	Emergency button
15	Main trainer O/I		

Scope of Delivery

- Gear Pump Experimental Unit (FR - 006)
- Hard Copy User Manual
- BEDO Software
- Oil (5L).

Required for operation

- Laboratory PC

Options

- Digital Content (BI-01)