

Product Name :
Astra Scientific Gear Pump Demonstration Unit

Product Code :
Fluid Mechanics Lab0017



Description :

Astra Scientific Gear Pump Demonstration Unit

Technical Specification :

DESCRIPTION:

The gear pump is the most widely used of the positive action rotary pumps. Two gear wheels operate inside a casing. One is driven while the other rotates in mesh with it. The liquid is carried around in the space between consecutive teeth and then ejected as the teeth mesh. The pump has no valves. It is a positive displacement pump and will deliver against high pressures. The output is a more even flow than that of a reciprocating pump. It is particularly suitable for high-viscosity fluids.

A motor-driven gear pump, mounted on a stainless steel plinth with a water reservoir and pipework for continuous circulation. The pump head and the water reservoir are manufactured from clear acrylic for maximum visibility

The pump speed is accurately controlled by an advanced electronic inverter. This inverter also calculates the torque produced at the motor drive shaft, allowing the power used by the pump to be derived. The conditioning electronics for the sensors and allows their readings to be displayed on the computer software.

FEATURES:

- A small-scale gear pump demonstration unit, comprising of a water reservoir, pump, control valve, relief valve and interconnecting pipework, all mounted on a stainless steel base
- Equipped with electronic measurement sensors for pump head pressure, flow rate and water temperature
- Transparent pump head for visibility
- Capable of being linked to a PC
- Supplied with software providing full instructions for setting up, operating, calibrating and performing the teaching exercises. Facilities for logging, processing and displaying data graphically
- Offers a complete teaching package of coursework and laboratory investigation
- Measurement of constant-speed pump performance, including the production of characteristic curves of outlet pressure against: Flow rate, Motor shaft power

Pump speed, Pump efficiency, Volumetric efficiency

- Comparison of student calculations with computer results

SPECIFICATIONS:

Max flow rate: 6.5 l/m typical

Max head: 25m

Max pump speed: 1,800rpm

Motor power rating: 250W, 230 V, 1PH



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