

VOLUMETRIC PUMP TEST BENCH

Mod. VP/EV

INTRODUCTION

The Bench mod. VP/EV is an educational unit for the study of the technical characteristics of different volumetric pumps.

The measurements, which can be performed varying the operation conditions, can be easily compared with data resulting from the theory.

The group is supplied with manual which describe all parts of the unit, the installation and utilisation procedures, as well as many exercises with the relative results.

TRAINING PROGRAM

- Measurement of flow rate and pressure at different operation conditions
- Regulation of the flow rate at the variation of the volume
- Efficiency of the pumps
- Verification of the safety system with calibrated valve

TECHNICAL SPECIFICATIONS

The reciprocating pumps fitted with the bench are micrometrically regulated by the piston upstroke; this allows to change the volume of the pumping chamber and consequently to modify the delivered capacity without reducing the delivery pressure.

The unit is completely self-sufficient and it is fitted with a wheeled frame; the working liquid is oil. A damper is fitted on the branch of the delivery pump in order to eliminate the pressure pulsation process, typical of reciprocating pumps.

It is also possible to exclude the damper and to show the phenomenon. The instruments for delivery and suction pressure measurement, protection filters, regulation valves and safety valves on delivery, are fitted with the circuit.

The unit includes:

- Piston pump (P1):
 - Rpm: 1400 rpm
 - Power: 0,37 kW
 - Flow rate: 9,2 l/min
 - Head: 7 bar
- Diaphragm pump (P2):
 - Rpm: 1400 rpm
 - Power: 0,37 kW
 - Flow rate: 36 l/min
 - Head: 7 bar



- Vane pump (P3):
 - Rpm: 1000 rpm
 - Power: 0,37 kW
 - Flow rate: 6,3 l/min
 - Head: 7 bar
- Gear pump (P4):
 - Rpm: 1500 rpm
 - Power: 0,37 kW
 - Flow rate: 4,7 l/min
 - Head: 7 bar
- Trolley mounted frame
- Feeding and collecting tank: capacity 50 l
- Manometer (0 to 10 bar)
- Simple calibrated tank to measure the delivered capacity
- Vibration damper (or air lock)
- Protection filters (on the suction circuit)
- Safety valves (on the delivery circuit)
- Electric switch for each pump

Dimensions: 550 x 750 x 1500 mm

Net weight: 130 kg

REQUIRED

UTILITIES (PROVIDED BY THE CUSTOMER)

- Power supply: 400 Vac 50 Hz three-phase - 1,2 kVA (Other voltage and frequency on request)
- Water supply: tank filling 50 l approx.

SUPPLIED WITH

THEORETICAL - EXPERIMENTAL HANDBOOK

