

HT 701 MINI PELTON/FRANCIS TURBINE TEST SET



GENERAL DESCRIPTION

This is a self contained bench top set of Pelton and Francis turbines, designed for studying the turbine characteristics under various flow rates and heads.

The unit consists of a pump, a storage tank on a steel base, a mini Pelton and a mini Francis turbine connected in parallel, a dynamometer for each turbine, and measuring instruments.

Instruction manual is also included.

EXPERIMENT CAPABILITIES

Each turbine can be tested on the following:

- Torque vs speed at various heads and flow rates.
- Power output vs speed for various heads and flow rates.
- Efficiency vs speed for a given head and flow rate.
- Racing characteristics.

TECHNICAL DATA

- Mini Pelton turbine:
 - Construction : Stainless steel runner, nozzle and hardened shaft and casing with transparent window to observe hydraulic action
 - Ratings : Over 40 W of brake power
- Mini Francis turbine:
 - Construction : Bronze runner.
: Adjustable guide vanes. Non corrosion metal casing with transparent window to observe guide vane position
 - Ratings : Over 25 W of brake power
- Pump ratings
 - Motor : 0.55 kW
- Dynamometer : Mechanical brake
- Measuring instruments
 - Torques : Spring balances
 - Speeds : Portable tachometer
 - Flow rate : Water meter and stop watch
 - Pressures : Pressure gauges at turbine inlets
- Software for data display and analysis by computer (separately supplied).
- Power supply : 220 V, 1 Ph, 50 Hz. Other power supply is available on request.

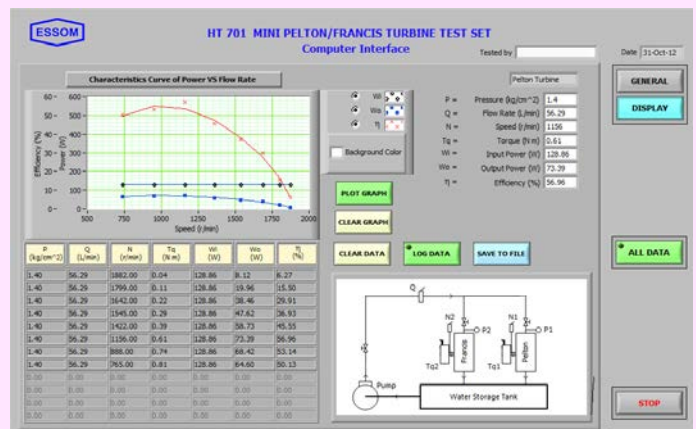
OPTIONAL EQUIPMENT

- HP 009 A pressure gauge at pump inlet for pump pressure vs flow rate curve.
- HP 010A Flow digital display instead of water meter and stop watch.
- HP 011A Pressure digital display instead of pressure gauges.
- HP 012A Torque digital display instead of spring balance.
- HP 014A Speed digital display instead of portable tachometer.
- HT 010 Electric generator with voltage and current digital display and lamp load.
- HT 701-050 Computer Interface

Sensors with computer interface unit for key data acquisition instead of analog data measuring instruments.

This includes computer interface unit with torque, speed, flow and pressure sensors instead of spring balances, portable tachometer, water meter and pressure gauges.

- HT 701-601 Mini Kaplan turbine unit
Capable of generating over 15 W of brake power, metal runner, adjustable guide vanes, hardened stainless steel shaft, non-corrosion metal casing with transparent window and runner section. The unit supplied storage tank.
- HT 701-501AI Mini Axial flow impulse turbine unit
Capable of generating over 25 W of brake power with metal runner, stainless steel twin nozzles, hardened stainless steel shaft, stainless steel casing with transparent discharge window. The unit supplied with storage tank.
- Other optional equipment, please contact manufacturer (essom@essom.com)



Net (unpacked) shipping dimensions WxLxH
Net weight

: 45 x 110 x 110 cm
: Approx. 90 kg

