

HT 410 CROSS FLOW TURBINE TEST SET

GENERAL DESCRIPTION

This set is designed for studying the Cross Flow turbine characteristics under various flow rates and heads.

The unit consists of a storage tank, a pump, a turbine, a dynamometer, a generator, and measuring instruments. Power output can be measured by either dynamometer or generator. The adjustable nozzle directs the water jet tangentially to the runner.

The unit is on wheels.

Instruction manual is also included.



EXPERIMENT CAPABILITIES

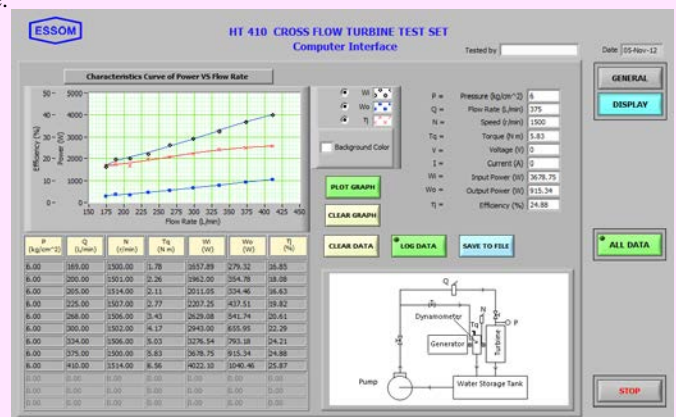
- Torque vs speed at various heads and flow rates.
- Power output vs speed for various heads and flow rates.
- Efficiency vs speed for a given head and flow rate.
- Overall turbine-generator efficiency.
- Racing characteristics.

TECHNICAL DATA

- Turbine:
 - Construction : Stainless steel runner, and nozzle
 - Ratings : Stainless steel casing with transparent window
 - Pump ratings : Approx. 1000 W of brake power or over 650 W of electrical power
 - Motor : 7.5 kW
 - Generator : 1.5 kW, 220 V, 1 Ph, 50 Hz.
 - Electrical load : Lamp bank
 - Dynamometer : Water cooled stainless steel mechanical brake with anti splashing system
 - Measuring instruments
 - Torque : Spring balance
 - Pressure : Pressure gauge
 - Sensors with digital display : Voltage and current for electrical power output
- Software for data display and analysis by computer (separately supplied).
- Power supply : 380 V, 3 Ph, 50 Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT

- HP 008 Advanced inverter for controlling and indicating motor speed as well as for calculating motor input power. Hence pump efficiency at various speeds can be determined.
- HP 011A Pressure digital display instead of pressure gauge.
- HP 012A Torque digital display instead of spring balance.
- HD 200DA Water brake absorber dynamometer instead of mechanical brake dynamometer. In this case, connection to the turbine with generator is by pulleys or direct coupling to the turbine without the generator.
- HT410-050 Computer Interface
Sensors with computer interface unit for key data acquisition instead of analog data measuring instruments.
This includes computer interface unit with torque and pressure sensors instead of spring balance and pressure gauge.



Net (unpacked) shipping dimensions WxLxH : 110 x 210 x 170 cm
Net weight : Approx. 400 kg