



Features

- Closed water circuit for supplying turbines
- Software for data acquisition, visualization and operation
- Basic experiments on centrifugal pumps
- Part of the fluid energy machines

Tesca Turbine Pump – Base Unit is required to supply different turbines. Additionally, the base unit enables basic experiments on a centrifugal pump.

The closed water circuit of pump features a water tank and a centrifugal pump with variable speed via a frequency converter. The turbine to be investigated is placed on the tank cover and is connected to the base unit via a hose. The flow rate hence the pressure applied to the turbine is adjusted by pump speed. The head and the pressure upstream of the turbine can be kept constant by a pressure control. A damping plate inside the tank ensures a low air entry into the circulating water. Basic pump experiments can be performed using the throttle valve included. The throttle valve is placed upon the tank cover instead of the turbine.

The base unit is fitted with sensors for pressure and flow rate. The microprocessor-based measuring technique is well protected in the housing. All the advantages of software-supported experiments and evaluation are offered by the GUNT software and the microprocessor. The connection to a PC is made by USB.

Following turbines are available: a reaction turbine, a

Note: Specifications are subject to change.

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Pelton turbine and an action turbine. The well-structured instructional material sets out the fundamentals and provides a step-by-step guide through the experiments.

Specifications:

- Supplying the turbines with water under pressure
- Basic experiments on centrifugal pumps
- Together with the turbines: investigation of operating behaviour and recording of turbine characteristics
- Includes pump and transparent water tank
- Low air entry into circulating water ensured by damping plate inside the tank
- Variable pump speed via frequency converter
- Sensors for flow rate and pressure
- Microprocessor-based measuring technique
- Unit-specific software for data acquisition and operation via USB under Windows Vista or Windows

Technical Specifications

Pump

- Power Consumption: 670w
- Max. Flow Rate: 70l/min
- Max. Head: 35,4m
- Water Tank: Approx. 15l

Measuring ranges

- Flow Rate: 3,9...50l/min
- Pressure: -1...5bar

Experiment Capabilities

- Basic experiments on a centrifugal pump together with the turbines
- Determination of typical turbine curves
- Performance curves at varying turbine speeds
- Determination of efficiencies

Required Services:

- Electric Supply 220 - 240V AC, 16 A, Single Phase, Earthed.