KHT-105 | **TURBINE PUMP – BASE UNIT**

The **Turbine Pump – Base Unit Model KHT-105** is designed to supply various types of turbines and also facilitates basic experiments on a centrifugal pump.

The unit features a closed water circuit consisting of a water tank and a centrifugal pump with variable speed control via a frequency converter. The turbine under investigation is mounted on the tank cover and connected to the base unit through a hose. The flow rate—and consequently the pressure applied to the turbine—is regulated by adjusting the pump speed. A pressure control system ensures that the head and pressure upstream of the turbine remain constant. A damping plate inside the tank minimizes air entry into the circulating water.

In addition to turbine testing, fundamental pump experiments can be carried out using the included throttle valve, which can be mounted on the tank cover in place of the turbine.

The base unit is equipped with sensors for pressure and flow rate measurement. The microprocessor-based measuring system is securely housed and, together with the GUNT software, provides all the benefits of software-supported experimentation and data evaluation. Connection to a PC is established via USB.

The following turbines are available for investigation:

- Reaction turbine
- Pelton turbine
- Action turbine

Comprehensive instructional material introduces the theoretical fundamentals and provides a step-by-step guide to the experiments.

Features

- Closed water circuit for supplying turbines
- Software for data acquisition, visualization, and operation
- Basic experiments on centrifugal pumps

Note: Specifications and Photos can be altered without prior notice in our constant efforts for improvement.

- Part of the fluid energy machines

Specifications

- Supplying the turbines with water under pressure
- Basic experiments on centrifugal pumps
- Investigation of operating behavior and recording of turbine characteristics (with turbines)
- 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 (Windows Vista or Windows)

Technical Specifications

Pump

- Power consumption: 670 W
- Max. flow rate: 70 L/min
- Max. head: 35.4 m

Water Tank

- Capacity: approx. 15 L

Measuring Ranges

- Flow rate: 3.9 … 50 L/min
- Pressure: -1 … 5 bar

Experiment Capabilities

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

Required Services

- Electric supply: 220 – 240 V AC, 16 A, Single Phase, Earthed

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