Product Name :	**Product Code :**
Francis Turbine Trainer	FUDE0054

Description :

Francis Turbine Trainer

Technical Specification :

• characteristics of a powerful Francis turbine

• optimal view of the operating area of the turbine

• adjustable guide vanes for setting the output The Francis turbine belongs to the reaction turbines which convert pressure energy of the working medium into kinetic energy in the guide vanes and in the rotor. Francis turbines are used for medium heads. The turbine power is controlled by adjusting the guide vanes. In practice, Francis turbines are used in run-of-river power plants and in pumped storage plants. SR-HM430C enables examinations of the function and operating behaviour of a Francis turbine. The dimensions of the trainer guarantee realistic measured values. The closed water circuit consists of a tank with optional cooling, a centrifugal pump and a flow control valve for adjusting the inlet pressure. The transparent

operating area of the turbine enables an optimal view of water flow, rotor and guide vanes during operation. By adjusting the guide vanes the angle of attack, the cross-section and thus the output of the turbine are changed. An asynchronous machine is used as a generator for loading the turbine. A pump with variable speed via frequency converter provides for an energy efficient operation.

The speed of the turbine is recorded by means of an inductive, non-contact position sensor at the generator shaft. The generator is equipped with a pendulum bearing and with a force sensor to determine the torque. The pressures at the inlet and outlet of the turbine, the temperature and the flow rate are recorded by sensors. The measured values are displayed digitally and can be processed further on a PC. The output data of the examined

turbine are determined and can be represented by characteristic curves.