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Product Name :

Francis Turbine Trainer

Product Code :

SLE/MCE/46



Science Lab
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Description :

Francis Turbine Trainer (Product Code: SLE/MCE/46) is a floor-standing laboratory turbine test stand used to measure the performance of a Francis reaction turbine under generator load in university and technical institute hydropower labs. A multistage centrifugal pump with frequency-converter speed control feeds a 165 mm rotor with adjustable guide vanes, and all readings are shown digitally for further processing on a PC. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer of engineering lab equipment in India, at its own factory in Ambala.

Specifications

Parameter	Detail
Hydraulic power	2.1 kW at 1500 rpm
Mechanical power	Approx. 1.4 kW at 1500 rpm
Rotor	165 mm diameter, 8 blades, 8 guide vanes
Angle of attack	Adjustable, 0 to 23°
Operating area	Transparent, showing water flow, rotor and guide vanes
Supply pump	Multistage centrifugal pump, variable speed via frequency converter; head 42 m; max. flow rate 900 L/min
Inlet pressure control	Flow control valve
Tank	550 L
Generator (load)	Asynchronous machine, 2.2 kW at 1440 rpm, 0 to 2200 W; pendulum bearing with force sensor for torque
Speed sensing	Inductive non-contact sensor on the generator shaft, 0 to 3000 rpm
Torque range	0 to 20 Nm
Flow rate range	0 to 1000 L/min
Temperature range	0 to 100 °C
Turbine pressure sensors	Inlet and outlet; ranges listed as ±1 bar and 0 to 6 bar
Data	Digital display of measured values; can be processed further on a PC
Power consumption	5.5 kW
Power supply	400 V, 50 Hz, 3 phase (400 V, 60 Hz, 3 phase and 230 V, 60 Hz, 3 phase also listed)
Dimensions	2350 x 1050 x 2050 mm
Weight	Approx. 580 kg
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