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Product Name :

Demonstration Francis Turbine

Product Code :

SLE/MCE/44



Description :

Demonstration Francis Turbine (Product Code: SLE/MCE/44) is a small reaction water turbine used to study how guide vane setting, flow and speed affect turbine torque, power and efficiency in hydraulic machines laboratories. Rated at 350 W at 1500 rpm, it has a spiral housing, adjustable guide vanes, a band brake with spring balances and a non-contact speed sensor. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer, at its own factory in Ambala, India.

Specifications

Parameter	Detail
Turbine type	Francis (reaction) turbine with spiral housing and adjustable guide vanes
Output	350 W at 1500 rpm, 270 L/min, head approx. 15 m
Maximum speed	3000 rpm
Rotor	11 blades; 7 vanes
Medium diameter	60 mm
Angle of attack	0 to 20°
Torque measurement	Band brake read on spring balances, 0 to 9.81 Nm
Pressure measurement	Manometer at the turbine inlet, 0 to 4 bar absolute
Speed measurement	Non-contact speed sensor, 0 to 4000 rpm
Dimensions	1000 x 800 x 1200 mm
Weight	90 kg
Product code	SLE/MCE/44
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Demonstration Francis Turbine Used For?

Francis turbines drive most medium-head hydropower stations, and this bench-scale version lets students follow the energy conversion step by step. Water enters through the spiral housing, is accelerated and turned by the adjustable guide vanes, and gives up both pressure and kinetic energy in the impeller — which is what makes it a reaction turbine rather than an impulse machine.

In a typical test the band brake is tightened in steps while students log spring balance forces, speed from the non-contact sensor and inlet pressure from the manometer. Torque times speed gives shaft power, and dividing by hydraulic power gives efficiency, so curves of power and efficie a comp where