

Francis turbine advantages and disadvantages

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Advantages and Disadvantages of Francis Turbine. Francis turbines have the following advantages and disadvantages: Advantages of Francis Turbines. Francis turbines are best for the radial flow of water. These turbines don't have failure even at low water discharge.

Advantages of Francis Turbine. No head failure occurs still at the low discharge of water. Francis turbine variation in the operating head can be more simply controlled. The mechanical efficiency of the Pelton wheel turbine decreases faster than the Francis turbine.

Applications of Francis Turbine. It is one of the most efficient hydro-turbines; It works over a wide range of head and flow rate; It is one of the most widely used turbines used to generate electricity; Advantages of Francis turbine. Its control is easy even with variable heads; Very little change in efficiency with time; It has small runner size

A reaction turbine is a type of turbine in which the working fluid comes to the turbine under great pressure and the energy is extracted by the turbine blades from the working fluid (generally water).

Unlike Pelton turbine in which all the energy of the working fluid is transferred to the rotating wheel in a single impulse, in a Francis turbine energy transfer occurs gradually from inlet to outlet.

Francis turbine is a hydraulic and reaction turbine and it is the most preferable hydraulic turbine. Francis Turbine contributes more than 60 percent of hydraulic energy capacity to the world. The Francis turbine was developed by James B. Francis around 1855.

Francis Turbine is an inward flow reaction turbine and has a purely radial flow runner, the pressurized water will enter the vanes in the radial direction and discharge out of the runner axially. The Francis turbine operates under medium heads (45-400 meters) and also which are guiding types and it is employed to have medium discharge (10-700 cube meters per second).



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