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## HYDRO POWER PLANT CLASSIFICATION

- **In impulse turbine, all of the available energy is converted into kinetic energy & velocity head at penstock nozzle end is only available energy e.g. – Pelton wheel, Banki turbine, turgo-impulse wheel, Girard wheel, Jonval turbine etc. .**

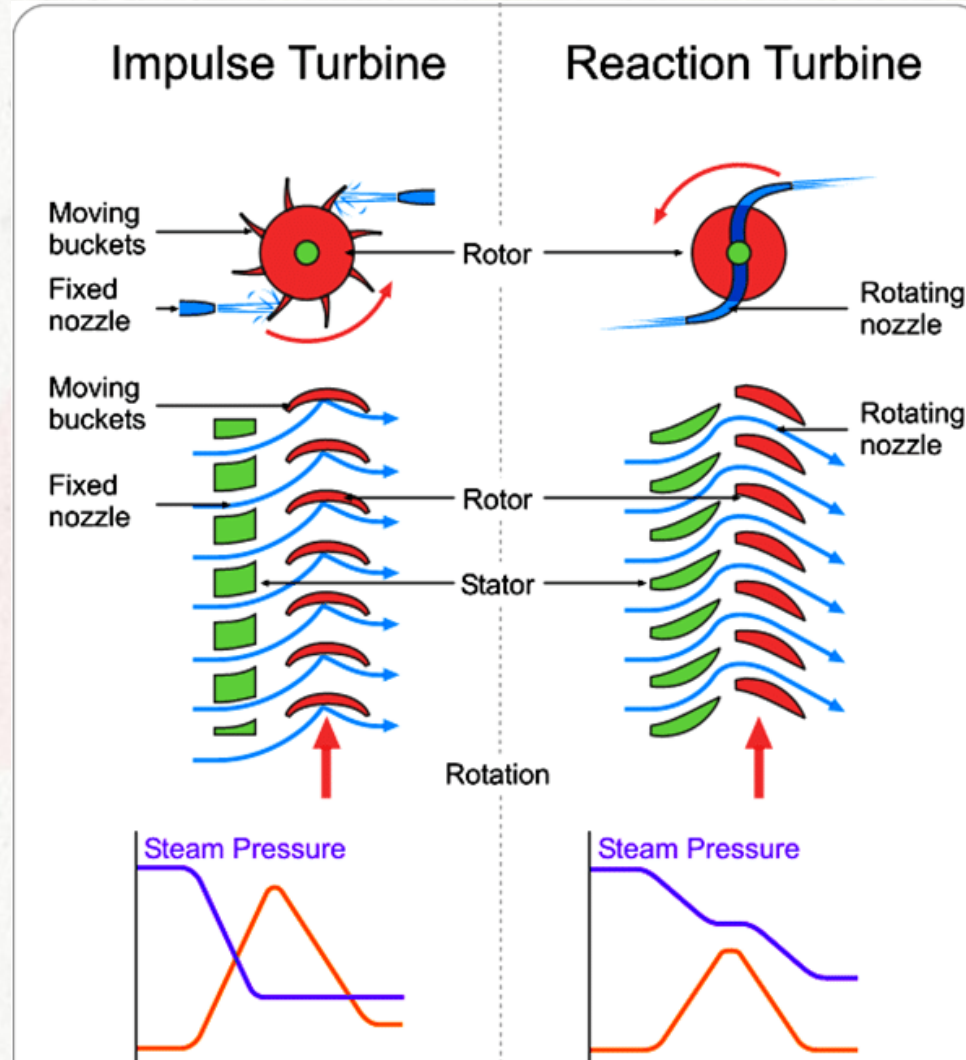




**In reaction turbine**, at the entrance of the runner, some available part of energy is converted in kinetic energy and substantial part remains in the form of pressure energy e.g. – Francis Turbine, Thomson, Kaplan, propeller, Fourneyron etc



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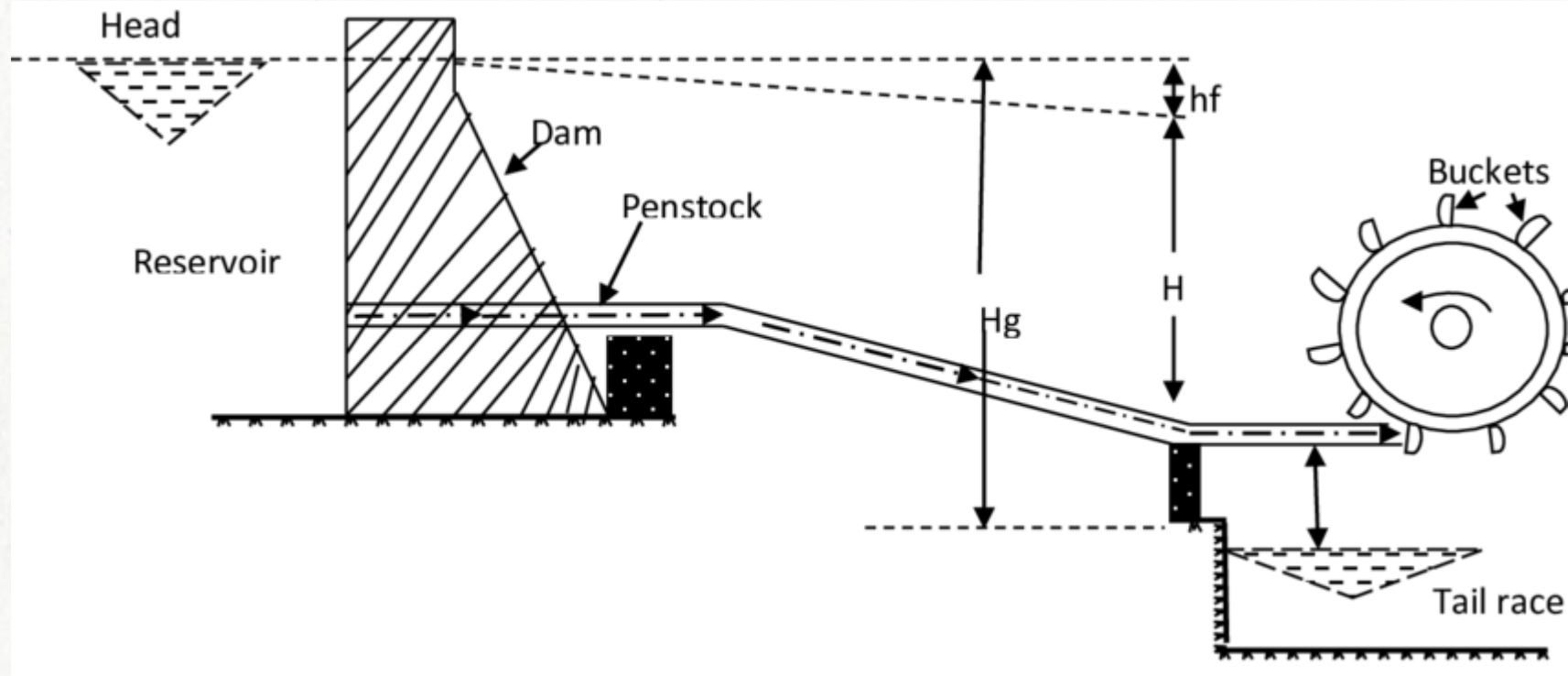
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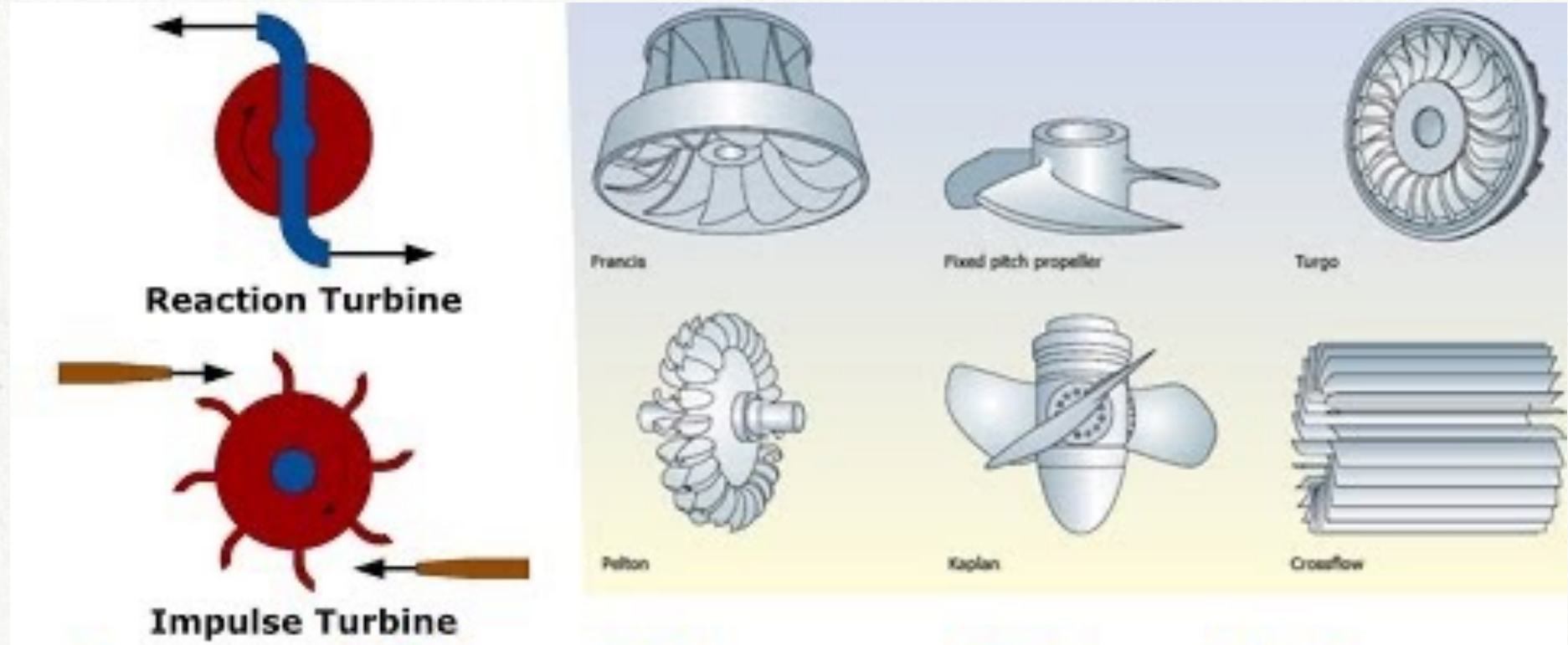
## **(b) According to direction of flow of water**

- Tangential – water flows along the tangent to path of rotation (e.g. – Pelton wheel)
- Radial – water flows in the plane perpendicular to axis of rotation but radially.  
e.g. – Francis is inward radial Turbine Fourneyron is outward radial Turbine
- Axial flow– Water flows through the runner is wholly and mainly along the axis of rotation e.g. – Kaplan, Jonval, Propeller etc.
- Mixed flow – Water enters at outer periphery of blade radially and leaves the runner axially from its axis of rotation.  
e.g. – Modern Francis turbine

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