

<Reference 1>

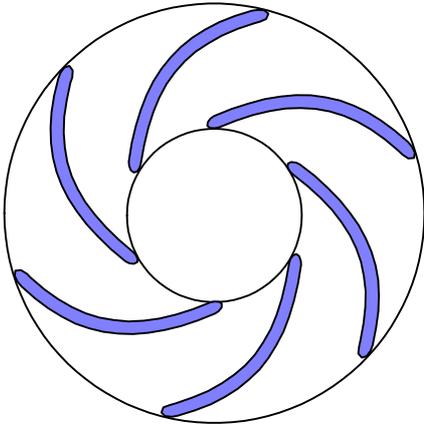
Splitter Runner

The "Splitter Runner" is a multi-blade pump-turbine runner that was jointly developed by TEPCO and Toshiba Corp. The number of blades is increased to ten compared with six to seven blades of conventional types, and it is the world's first technology that could increase the efficiency of turbine and pump by arranging long blades and short blades in turn.

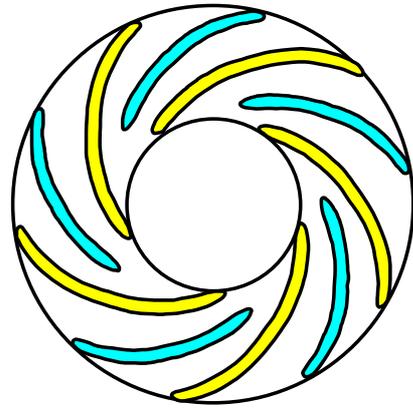
With the introduction of this runner, Kannagawa Hydropower Plant increased its power generation and pumping operation efficiency by about 4%, and the power generation capacity per pump-turbine has increased by 20,000 kW from the original plant to the world's largest level of 470,000 kW. This represents the same cost reduction effect as the construction of power generation plant equivalent to the increase in capacity. The efficiency improvement of power generation and pumping operation in the future is expected to reduce CO₂ emissions by about 13,000 tons a year per unit or about 78,000 tons a year in the power plant as a whole.



On-site work to install the pump-turbine runner



(a) Conventional runner



(b) Splitter Runner (multi-blade runner composed of long and short blades arranged in turn)