

-Hydroelectric power plant testing-

Hydroelectric power plant governor test

Digital oscillographic recorders are used for power efficiency tests in hydroelectric power plants.

- Hydropower generates electricity by rotating a generator from the pressure of water from a dam. Changing the opening (stroke) of the guide vane will change the rotation speed of the generator, which will affect the amount of power generated and frequency. Governor tests (load cut off) are performed to confirm the correct functioning of no-load operation in the event that the load is cut off due to an accident during power generation. During this time turbine rotation speed, generator voltage, iron pipe water pressure, etc. must not exceed the guaranteed range.
- The RA2300A is equipped with a strain amplifier and can also fit a pressure sensor and displacement sensor.

Relay count test record example- ACV and relay operation simultaneous recording.

Image of testing load cut off of generator

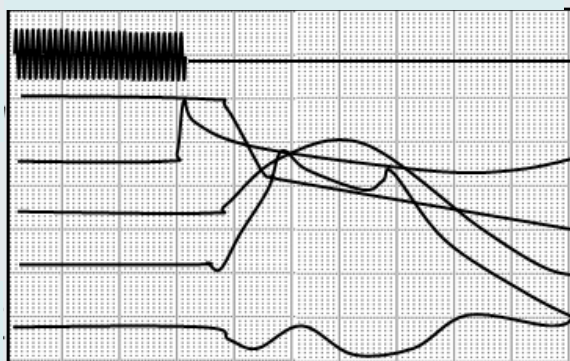
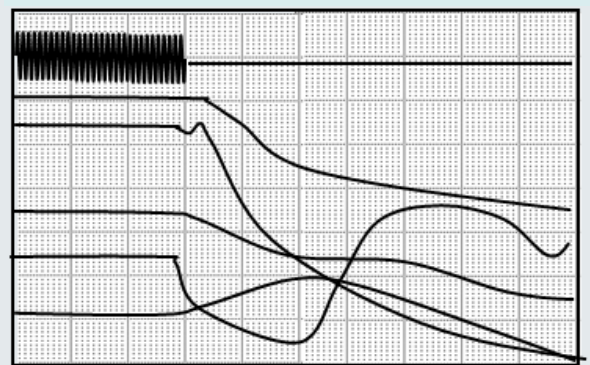


Image of testing cut off of pump turbine input



The waveform is a image



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Natural falling water rotates turbines (generators) and generates electricity in dams. Water is led to the turbine with by the water conduit (iron pipe). It is possible to change the rotation speed by adjusting the amount of water with a regulating valve (guide vane etc.). In the hydroelectric power generation governor tests the degree of opening/closing, water pressure of each part, number of rotations and amount of power generated are measured. If the water conduit is too long, cavitation may cause "beat or abnormal vibration" which may cause equipment failure and noise.

Digital Oscillographic Recorder

RA2000A Series Omniace III

Did you know?

The RA2300A/RA2800A can simultaneously measure voltage, current, control timing, vibration, rotation, pressure and more directly from sensors.



Item	Item code	Spec
2CH High Resolution Amp	AP11-101	$\pm 100\text{mV} \sim \pm 500\text{V}$, A/D res 16bit $10\mu\text{s}$
2CH High Speed Amp	AP11-103	$\pm 100\text{mV} \sim \pm 500\text{V}$, A/D res 12bit $1\mu\text{s}$
Event Amp	AP11-105	Input: 8 logic (Voltage/Contact)
2CH TC·DC Amp	AP11-106A	Input: R·T·J·K·W ($\pm 100\text{mV} \sim \pm 50\text{V}$)
2CH AC Strain Amp	AP11-104A	Response frequency: 2KHz
2CH DC Strain Amp	AP11-110	Response frequency: 50KHz
2CH Vibration/RMS Amp	AP11-109	$\pm 100\text{mV} \sim \pm 500\text{V}$
F/V Converter	AP11-108	Input: 1KHz \sim 10KHz

