

Sediment Excluder

Stubli, Norway

Challenge

The Stubli run-of-river hydropower plant is located in a sediment-laden river carrying significant quantities of gravel and coarse material during high-flow periods. Fine gravel, typically 5–10 mm in size, accumulated in front of the intake trash racks, gradually reducing intake capacity and increasing maintenance requirements.

The existing intake was equipped with only a small dewatering pipe, making conventional flushing impractical. As a result, sediments could not be removed effectively, leading to recurring build-up in front of the intake structure and reduced hydraulic performance.



Sediments are removed from two sides



Installation and successful testing

Solution

SediCon designed and supplied a custom Sediment Excluder with two sediment inlets and a diameter of 630 mm. The system automatically removes gravel, stones and debris up to 400 mm in diameter using the proven siphon principle.

The Sediment Excluder operates whenever water spills over the weir, utilizing only surplus water that would otherwise bypass the power plant. The solution requires no external power supply, contains no moving parts and operates fully autonomously. Installation, testing and commissioning were completed in less than one week.



Project Location

Project facts

Client: Småkraft AS
Project: Stubli RoR
Location: Narvik, Norway
Technology: Sediment Excluder
Installed capacity: 3 MW
Annual generation: 8.3 GWh

Results and benefits

- Automatic gravel and debris removal
- Dual-sided sediment removal
- No loss of production water
- Fully autonomous operation
- No moving parts
- Rapid installation and commissioning

For more than 30 years, SediCon has developed and supplied proprietary sediment handling technologies from Trondheim, Norway. Our solutions for reservoirs, intakes, desanders and tunnels have been successfully implemented in hydropower projects in more than 20 countries across five continents.