

Boulder Excluder

Tysso Intake, Norway

Challenge

The Tysso intake receives large quantities of gravel, stones and boulders transported as bedload during flood events. Material up to one meter in diameter frequently accumulated in front of the intake, reducing hydraulic capacity and requiring a solution capable of operating in a remote location without power supply, communication or regular access.



Boulder Excluder discharging



Performance verified during major flood events

Solution

SediCon designed, supplied and installed a 1200 mm Boulder Excluder capable of removing rocks up to 1.0 m in diameter. The system utilizes the siphon principle and operates automatically during flood events, when both sediment transport and surplus water are available.

The Boulder Excluder contains no moving parts, requires no external power and starts and stops automatically according to river conditions. Following more than two years of operation, including a major flood event, the system has demonstrated reliable autonomous performance while maintaining full intake capacity.



Project Location

Project facts

Client: Ulvik Hydropower
Project: Tysso Intake
Location: Norway
Technology: Boulder Excluder
Installed capacity: 20 MW
Head: 387 m
Design discharge: 10 m³/s

Results and benefits

- Removes boulders up to 1.0 m
- Proven during major floods
- Automatic flood operation
- No external power required
- No moving parts
- Maintains full intake capacity

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.