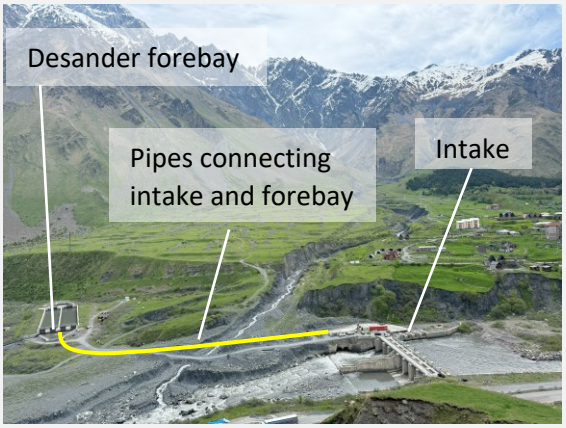
SediCon®
Removing sediments

Reference Project 2025

SediCon Sluicers for Dariali intake, Georgia

Installation of SediCon Sluicers and boulder excluder after the intake have eliminated costly, week-long production stops to remove sediments summer "sediment-season".



Low dam, intake and desanders


Discharge from SediCon Sluicers in the desander forebay

Project Description: Dariali is a 106 MW run-of-river hydropower plant commissioned in 2014. The power plant operates at a head of 385 m and with a discharge of 30 m^3/s.

Location: Stepantsminda, Georgia 42° 39' 57'' N 44° 38' 40'' E

Client: Dariali Energy, Republic of Georgia.

Challenge: Dariali is a Run-of-River plant with no effective water storage. Huge sediment loads during the snowmelt season enter the intake deposit and blocks waterway and prevent operation. Until now it has been required to stop production to remove sediments or avoid excessive deposition.

Solution: Four Large SediCon Sluicers for the intake and one SediCon Sluicer system and one Boulder Excluder in the forebay prior to the desander.

The systems are capable of removing several 1000 tons of sediment per hour and operate continuously during the sediment season. In the shoulder seasons systems are operated one by one and intermittently, minimizing loss of water.

Implementation: Only four months were required for detail design manufacturing, trucking to Georgia and installation, ready for operation in May 2025.

Three SediCon supervisors together with local staff completed the drawdown and installation of all equipment in less than 100 working hours.

SediCon systems were started immediately to allow continuous operation during summer 2025.

SediCon is the leading supplier of sediment handling worldwide and provides reliable solutions with low water consumption and uninterrupted power production.

Intake structure, immediately downstream intake pond and intake

SediCon Sluicers in the intake. Outlet pipes along the wall discharge over the spillway.

630 mm SediCon Sluicers remove sand gravel and stones up to 300 mm. Picture to the right is taken after two weeks of operation and shows that all sediment is removed.

Four SediCon Sluicers discharge over the spillway. A starter system operated by a small water pump allows operation without valves and without any modification of existing structures.

Forebay prior to desander, 200 m downstream of intake

Forebay with SediCon Sluicers and boulder excluder. Sediment including gravel and stones are effectively prevented from building up and desanders receive only suspended, fine sediments.

2,5 m high siphon and 60 m long outlet from the forebay provides efficient sediment removal without any modifications of civil structures. 630 mm pipes with unrestricted flow and high velocity provide passage of all gravel, stones and debris.

Sand, gravel and stones being discharged at a rate of more than 1000-ton sediments hour.