SIDERVAL
SPECIAL PROFILES IN STEEL

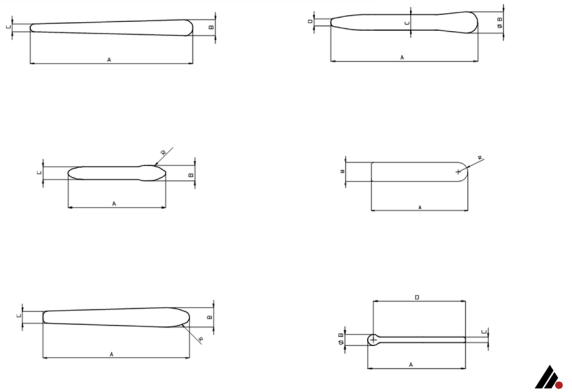
Hydrodynamic Profiles for Efficient Water Flow

Profile:
Special profile
Material grade:
Carbon & Stainless Steel
Execution:
Hot Extruded
Destination:
Worldwide

BACKGROUND

In the hydropower sector, efficient water flow management is a key factor for operational continuity and reliability. For this reason, **Hydro Dolomiti** turned to Siderval with the goal of improving the performance of its systems, where water circulation and debris retention play a crucial role. Traditional flat profiles did not guarantee optimal conditions: they tended to generate unwanted turbulence and showed limited capacity to retain solid residues. The need was therefore to adopt more advanced solutions capable of combining hydraulic efficiency, operational reliability, and competitive delivery times. To meet this demand, Siderval developed a range of **hot extruded hydrodynamic profiles**, specifically designed to minimize efficiency losses and increase system durability.

CHALLENGE



The project presented three main technical challenges:

- Flow optimization: it was necessary to develop a geometry capable of **reducing hydraulic resistance** and retaining debris, avoiding the limitations of simple flat profiles.
- Design flexibility: the customer required the possibility to freely select both bar lengths and steel grades according to the specific application.
- Speed and competitiveness: the solution had to ensure not only high technical performance but also **rapid availability** and reduced minimum batch sizes, striking the right balance between costs and benefits.

SOLUTION

With its **hot extrusion** technology, Siderval developed hydrodynamic profiles with dedicated shapes that minimize head losses and retain debris more efficiently than flat profiles. Available in **different dimensions**, they can be tailored to the plant's needs, ensuring reliable performance even in challenging conditions.

Customers can choose bar length and steel grade, carbon steel (min. 2000 kg) or stainless steel (min. 500 kg), covering a wide range of applications.

Thanks to a **delivery time of about two months**, Siderval combines flexibility, efficiency, and reliability in a solution that optimizes both technical performance and supply planning.