SIDERVAL
SPECIAL PROFILES IN STEEL

Piping & Plumbing

Hot extruded Near Net Shapes Profiles for Hydraulic Systems Sector

Profile:
Custom T-Profile
Material grade:
Carbon & Stainless Steel
Execution:
Hot Extruded
Destination:
Worldwide

BACKGROUND

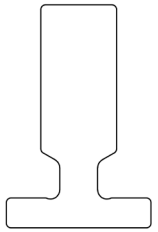
The **hydraulic systems sector** is a field of precision and efficiency, where every component plays a crucial role in the functionality and safety of the overall system.

Manifolds, as integral devices, connect one or more block/isolation valves in a hydraulic system, which can include ball, needle, bleed, and vent valves.

In recent years, the production of components such as manifolds has seen significant advancements through the adoption of "**near net shape**" steel extruded profiles.

This innovative process involves extruding steel to create a shape that **closely matches the final** desired geometry, minimizing the need for secondary processing and enhancing production efficiency.

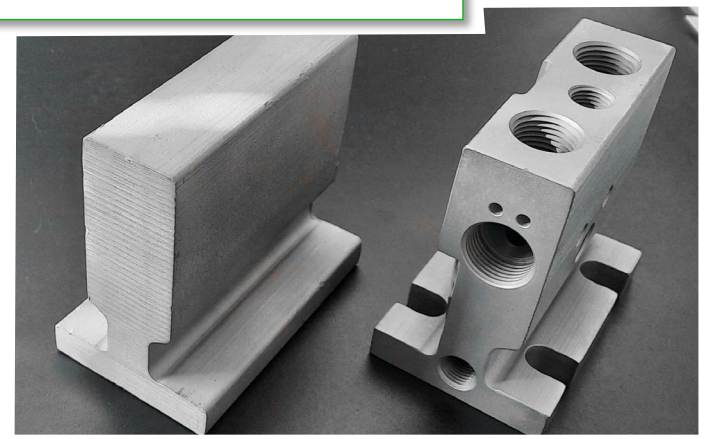
CHALLENGE



In refining the manifold manufacturing process to meet specific customer requirements, which previously started from a solid bar that required turning and drilling until the finished product was achieved, we had to solve several key challenges:

- **Secondary machining requirements**: creating a near net shape profile that could cut production time and cost.
- **Material flexibility and production batches:** The production of these profiles requires versatility in the choice of materials, both stainless and carbon steel. Added to this is the need for adaptable production in small and large batches.
- **Risk of Distortion**: Ensuring the integrity of the profiles against distortion during manufacturing was essential to maintain the quality and reliability of the final product.

SOLUTION



To meet these challenges, we applied our expertise in hot extrusion to faithfully replicate the dimensions and mechanical properties of the final product.

This significantly reduced the need for secondary operations, thus decreasing time and cost. Additionally, we **provided bars cut** to exact lengths of 100/90 mm for better storage efficiency.

Our process adjustments accommodated **small lots** of both stainless and carbon steel, maintaining the high precision and quality that our customers expect.

The outcome was a manifold that was both cost-efficient and up to the stringent standards of modern hydraulic systems.