



CNC manufactured Pelton runners
made of forged stainless steel

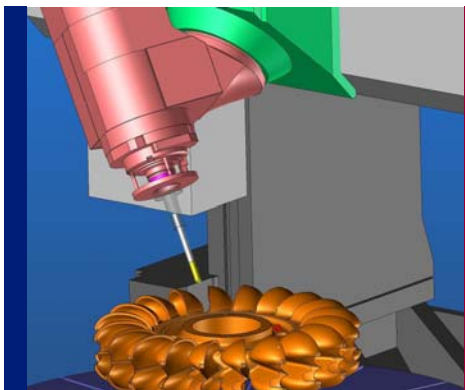


We set new quality benchmarks for Pelton runners

Pelton runners have to withstand highest mechanical demands. The water-jet, due to a head of hundreds of meters, and operation over many years stresses the runner material extremely.

A Pelton bucket of a 4-nozzles turbine with typical 600 Upm has for example 1,26 Mrd load changes per year. This requires the highest quality standards for Pelton runner manufacturing.

Our CNC manufactured Pelton runner – made of forged stainless steel – conforms these high demands.



The data for the CAM programming are generated from the original data of the 3D CAD model. In the CAM program the machining strategy and tool selection will be defined and the CNC coordinates are calculated.

The raw material is a forged stainless steel disc. (Mat. No, 1.4313)
The pre-machined part will be inspected by chemical analysis, impact- and ultrasonic test.

The first process step is to cut as much as possible material between the Pelton runner buckets. Approximately 60-70% material of the raw material are removed by milling.



The next step is to make the final profile. For finishing tools of high precision are used.

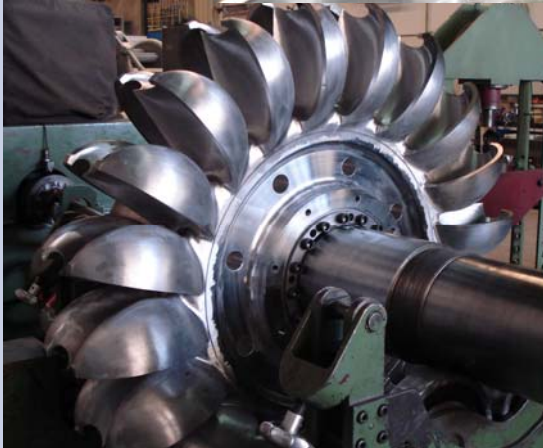
The CNC machining is finished. Now there is still a small rest of the material for finishing by hand to achieve polished surface.



The dimension check is executed by a coordination measuring machine. Ultrasonic test, penetration test and magna flux test are performed acc. to CCH-70 part 3.



Dynamic balancing guarantees nearly zero unbalancing.



Completed Pelton runner

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