

► Special processes

An electro brightening process can be used to make the aluminium surface shiny in alternative to chemical brightening and mechanical polishing.

Traditionally the products used to obtain very shiny surfaces are a mixture of 3 acids (phosphoric, sulphuric and chromic): the results are very good but environmentally chromium is a problem.

Also chemical brightening (phosphoric, sulphuric and nitric acid), although very effective regarding brightness, has serious environmental problems caused by the nitric fumes which must be treated at great expense.

Aluservice and Aluengineering have developed an electrolytic brightening process which, while obtaining the same results as a chromium based product, is completely chrome free and environmentally friendly.



The same alloy before and after treatment

Plant characteristics

Electrobrightening needs one process tank and one (2 is better) rinsing tanks and in a new plant it would be positioned before the anodising tank. (see below)

degreasing	rinse	rinse		rinse	rinse	anodising
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Operating conditions

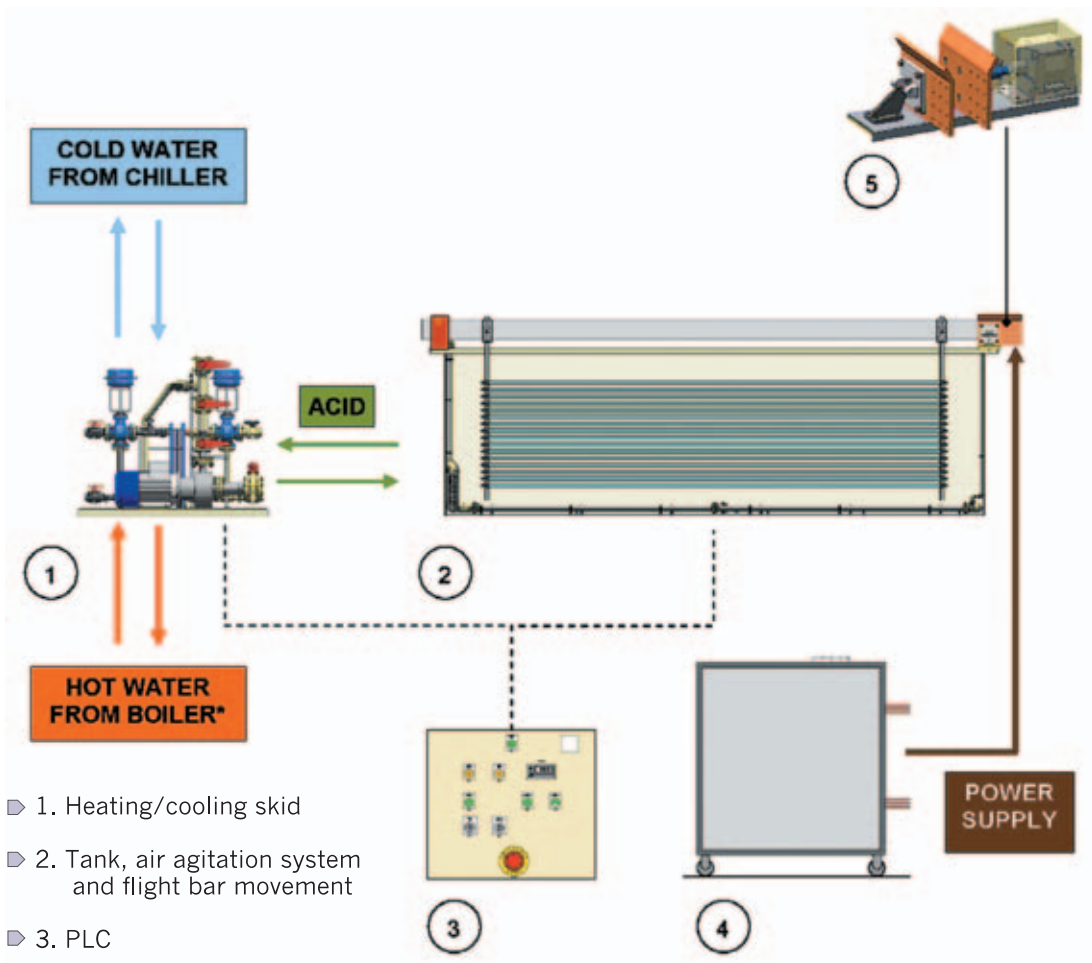
Temperature: 60° - 70° C

Voltage: 15 -20 V

Ampere: peak 11 A/dm² – working density 5A/dm²

Movement: 2 – 8 cm/sec

To satisfy the operating conditions above the system has to have the characteristics described in the drawing below:



- 1. Heating/cooling skid
- 2. Tank, air agitation system and flight bar movement
- 3. PLC
- 4. Rectifier
- 5. Clamp