



# Start-up & Commissioning of Two Micronics 1500mm Filter Presses for Leading Zinc Purification Process Plant in Latin America



A leading Latin American metallurgical company needed sophisticated new filter press solutions for its “Hot” and “Cold” Zinc Purification process and turned to Micronics for needed upgrades for their existing zinc purification operation. The client’s zinc purification process is a long-standing installation consisting of multiple filter presses running in-line in a closed loop fashion.

For this client, the pure dilute zinc is the valuable recovered product from the solid-liquid separation process and the filtration process needs to successfully remove all of the impurities from the zinc solution.

Micronics recently partnered with this client to develop, customize, install, and commission two new heavy duty 1500mm filter presses for this demanding 24/7 operation.

## **Challenges**

The zinc purification process is challenging in that there is a low per cent solids in the slurry and the formed filter cakes remain wet and thin and do not discharge as easily as other higher solids filter press applications.

The not very well-formed filter cakes (typical of low-solids applications) need to be scraped from the filter cloth, washed from the cloth by low-pressure water hose every cycle, and chemically cleaned every ~10 cycles. In addition to these labor-intensive requirements, there needed to be recirculation of the filtrate to a recovery tank in the event of any cloth failures to ensure that the pure filtration achieved targeted quality parameters.

The client needed a replacement filter press solution that first addressed the very labor-intensive process associated with this low percent solids application. Secondly, the filter press solution needed to be addressed in the context of the client’s existing footprint constraints.

Micronics’ engineering team had to come up with filter presses of a suitable length to be installed right above the foundations of the filter presses that were being replaced.

## **Highlights**

- 1500mm Filter Presses, 129 chambers, 16 bar pressure (up from 8 bar of existing press)
- Customized length for frame design to meet specific site requirements
- Fully customized [Automatic Filter Cloth Washer System](#)
- [Fully-Automatic Hydraulic Filter Plate Shifter](#)
- Piping - [Double Feed Assembly](#) with retracting pipe so as to save length and avoid hose usage, increasing duty time
- High capacity and easy to maintain Hydraulic Power Unit, customized and adjusted on site for low pressure when engaged in cloth washing, increasing reliability for work on duty cycles.

**Solution**

## Two 1500mm Micronics Filter Presses with Custom Automatic Cloth Washer, Automatic Plate Shifters, Double Feed Assembly, and Custom Controls



Micronics conducted an in-depth design and site revision analysis to not only address the client's pain points but to find a solution that would fit the same footprint (size and dimensions) as the old filter presses without affecting the required filtration area. Micronics designed a custom filtration solution that addressed all of the critical process and site requirements.

The Micronics solution incorporated significant Control System customization to ensure complete client satisfaction. This is typical of the Filter Press solutions that Micronics provides.

Micronics' technical service team commissioned and installed all of the new equipment for the client's Zinc Processing facility including extensive on-site customization, add-ons, and cycle step modifications. The customer was extremely pleased both with the filter press equipment and the on-site technical service provided during the system commissioning and start-up.

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### **Custom Automatic Cloth Washing System**

Micronics' Automatic Cloth Washing solution was developed to address very specific process needs & adjustments required as the cake thickness varied.

Our solution was smart and flexible enough to address and minimize water consumption requirements, another important consideration.

In addition, Micronics delivered a solution with a complete, easy to operate program to assist the client with the preventative maintenance tasks required to ensure ongoing press efficiency.



**Contact us** to learn more about Micronics' customized filter press solutions, along with expert on-site **installation, start-up, and commissioning services.**

We look forward to customizing a total liquid-solid separation solution for your process and site requirements.

**[www.micronicsinc.com](http://www.micronicsinc.com)**