

ACF

Advanced Compact Filter

designed & manufactured by **STAS**

under license from **RioTinto**

« The optimal filtration solution for high inclusion removal efficiency at the lowest operational cost »

How it works

This new filtration technology is adapted to frequent alloy changes and can provide inclusion removal higher than 90 %.

- > Patented vacuum priming system
- > Adapted to high quality product requirements
- > Low operating cost
- > Ideal for casthouses producing many different alloy families
- > High and consistent filtration efficiency and permeability (sustaining high metal flowrate)
- > Reduced filtration cost and enhanced filtration flexibility

The ACF / Advanced Compact Filter is the optimal filtration solution for high inclusion removal efficiency. This new filtration technology is adapted to frequent alloy changes and can provide inclusion removal higher than 90%. Like many other technologies that have been widely adopted and have become standards for the industry, the ACF is under a licence from Rio Tinto and now commercialized and manufactured by STAS.

The development and the lab-scale experiments of that technology have been undertaken between 2000 and 2002 by Arvida Research and Development Center (ARDC). From 2002 to 2004, the pilot-scale and the industrial trials in a casthouse have been validated and STAS manufactured the first prototypes. Since then, the ACF technology has been implanted successfully in different casthouses by STAS for the production of critical aluminium products.

The ACF / Advanced Compact Filter system can use filter cartridge as high as 60 or 70 ppi due to its priming vacuum system. The patented system provides added value to your cast products: forming performance, mechanical properties, porosities, surface quality.

Installed directly upstream from the casting table, it filters liquid aluminium through porous ceramic filter tiles adapted to your final product filtration needs. The filtering units are equipped with one or two side-by-side filter cartridges depending on the metal flow to be treated (584mm X 584 mm and their pore size from 20 to 70 ppi). Since the first industrial implementation, many ACF are in operation in Rio Tinto's plants and confirming the solution's compelling advantages. The ACF can filter up to 100 tonnes per cast, with a molten flow rate up to 1100 kg/min.

Key features

The ACF / Advanced Compact Filter is easily adaptable to the elevation and configuration of your existing troughs. Alloys family include: can end and can body stock, anodizing quality, brazing, bright trim, fine stock and foil. The ACF can, under certain conditions, replace a DBF (Deep Bed Filter) set with lower purchase, operation and maintenance costs.

- > One or multiple filter cartridges (ex.: duplex)
- > Preheating lid
- > PLC controlled

METALLURGICAL PERFORMANCE

- > No servicing equipment.
- > Technical and operational follow up.
- > Cover gas and heating is not needed as there is no metal hold-up between casts.
- > Quick and frequent alloy changes without scrap generation.
- > Filtering media changed at every cast.
- > Production lots are adapted to the client's needs.
- > Contributing to on time delivery.
- > Give access to niche market.

INSTALLATION

- > Filtering media can be replaced in less than two hours.
- > Readily replaces existing CFF or DBF filters.

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