

Aluminium Times

**The new TARDIS Generation II
will be launched by ALTEK at
Aluminium Essen 10 Exhibition**



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- METEF exhibition photographic review
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- New Herrmann + Hieber handling system installed
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ALTEK
TOTAL DROSS MANAGEMENT SOLUTIONS

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Hall 7 E 40



ALTEK launches most advanced dross press yet available

Following the acquisition of the TARDIS business in July 2009, ALTEK have been actively consolidating the two dross press technologies. The result is the new range of dross presses called TARDIS Generation II.

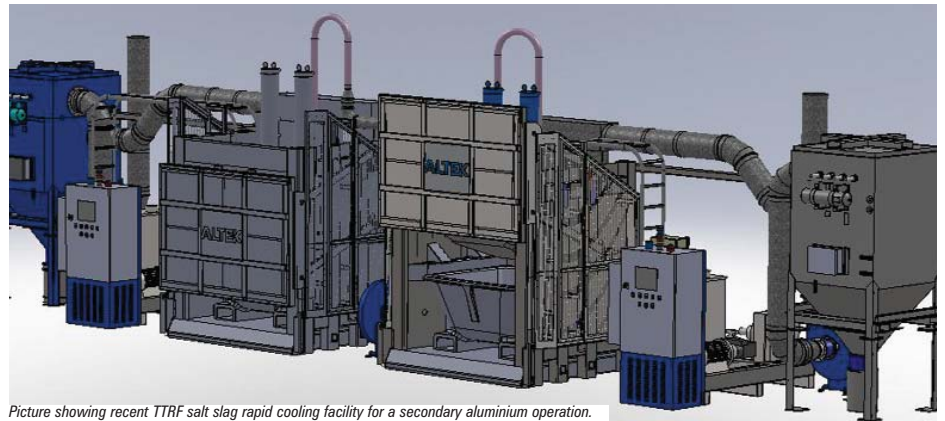
Following much consultation with users of the two technologies and with the design, manufacturing and commissioning/servicing teams working to identify the strengths and weaknesses of both systems, a new range of dross presses called TARDIS Generation II has been developed.

Alan Peel, Managing Director of ALTEK, explains:

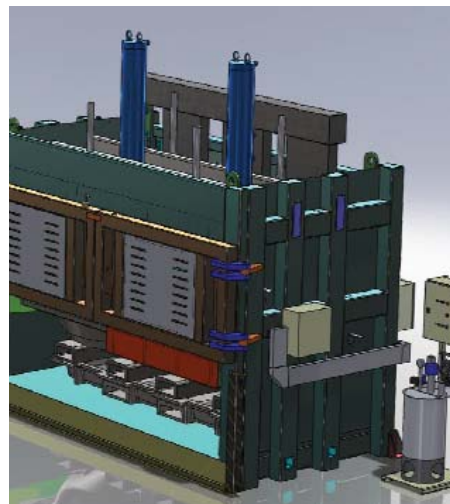
“As both technologies started from the same origin, at ALTEK in the early 1990s, it is nice to see the consolidation of the experiences gained over the past 15 years coming together again. This was a very important objective we had from the acquisition of the TARDIS business, to ensure that the aluminium market would benefit directly from the acquisition by access to an improved product.

“ The new dross press range of models will have many new features that will provide users with a much more versatile, reliable and friendly dross cooling solution.”

Consolidating the technologies was critically important with effective dross management becoming increasingly more strategic to aluminium operations due to the high value of the aluminium contained within it, the potential loss of this through ineffective dross management and the increasing importance on zero waste and environmental considerations. The new dross press range of models that will be launched at Aluminium Essen in September this year will have many new features that we believe will provide



Picture showing recent TTRF salt slag rapid cooling facility for a secondary aluminium operation.



Large capacity press for handling of 1 to 2 tonnes of dross or salt slag

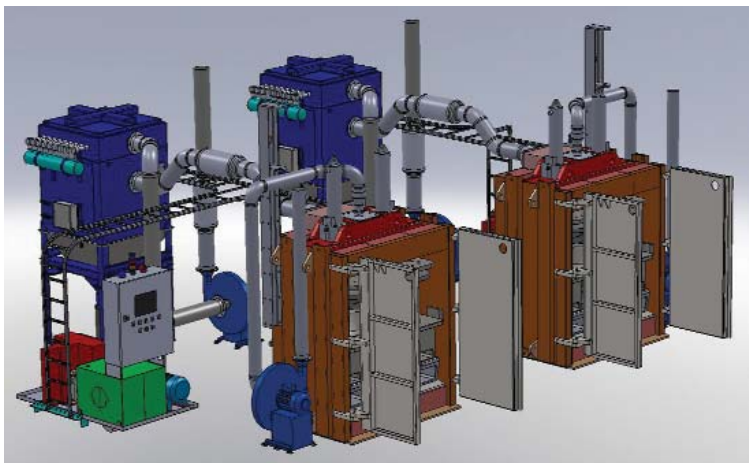
users with a much more versatile, reliable and friendly dross cooling solution.”

The importance of rapidly cooling the dross immediately after skimming, to stop the burning of the aluminium contained within it while also

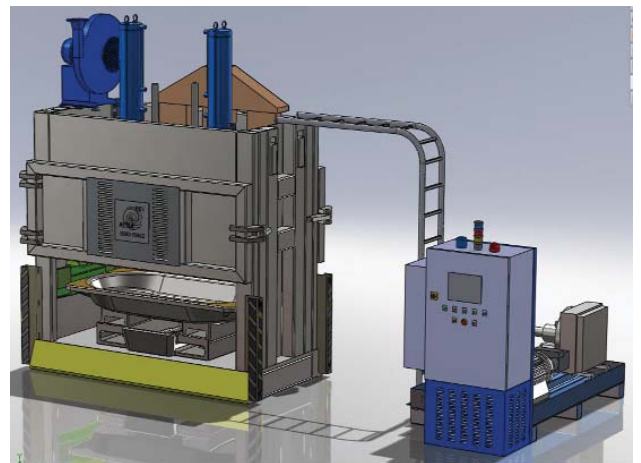
capturing the aluminium particles into larger plates of aluminium (ensuring a higher secondary recovery from the dross processor) does not change. This is why the dross press has established itself over the past as the most effective tool to disconnect the dross handling at the furnace from the secondary processor, allowing time to deal with the dross in an effective way without risking any further aluminium loss (through burning) or smoking and environmental issues. The ability to obtain an in-house drain from skimmed dross that can be put straight back into the furnace (with high value alloy being melted) provides additional financial benefits.

The new press range has removed many of the operational issues sometimes associated with dross presses as the key is they need to be easy to use with minimum operator input, hence advanced, fully automatic operation, has been introduced.

Many of the older generation of ALTEK presses from the 1990s were very poorly fabricated and not very robust, creating quite a negative perception of the dross press. The TARDIS presses came along in the late 1990s as a much stronger and more robust press with many new features and became a system



Two hybrid TARDIS 1062-501 model presses



Model of low press pan design for low sill heights applications.

of choice with many of the smelter cast houses. However with this improved design also came some reliability and design issues, leaving a complicated press to manufacture and also maintain.

TARDIS Generation II

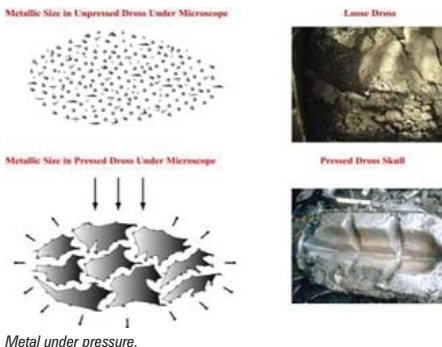
The new TARDIS Generation II press incorporates many of the new features recently developed by ALTEK for presses supplied to the large smelter projects in the Middle East and quite a few new ideas.

The door is a key part of the press operation and is critical to support a fully automatic operation. The new fully automatic door system still allows for a complete closing of the door space prior to pressing (as with the TARDIS model) or a half door set up as with the ALTEK presses, according to customer preference. There are a range of different types of ribbed press heads, shallow heads, chisel type heads and matching dross and slag bins all developed for different applications of the dross press, such as white dross pressing, black dross or salt slag pressing. Head cooling to maximise cooling efficiency of the dross has been greatly enhanced with a new integrated head cooling system.

Upgrade possibilities for existing TARDIS press users

An existing user of any TARDIS dross press model can look to upgrade their press with certain new features that are available on the new generation dross press. Many of these new features and modules are already proven and working on current press projects, but this is the first time they are coming together as a totally new package. These include:

- *New head design (non rocking head, patented ribbed type)*



Making use of the patented ALTEK ribbed head design with modifications to allow full use of the patented TARDIS head cooling system is a much simpler design removing all of the complexity on top of the press that was required with the old rocking head system. With a correct pressure distribution across the whole surface area of the dross within its matching dross pan, the maximum possible drain can be achieved while ensuring good plating action of the residual aluminium within the dross.

- *Upgrade to the fume filter system*

The fume filtration system associated with the old TARDIS models had some reliability issues and by designing these out we are able to offer a much simpler, easier to maintain system. Issues associated with binding of the candles, requiring costly replacement, have been removed with the new design by using a very different, higher surface area and more cost-effective filter media. This will be

demonstrated at the Aluminium Essen show.

- *Upgraded head cooling system*

By de-coupling the fume filtration system and the head cooling system and by introducing special baffle designs into the patented press heads, we have been able to ensure that the head cooling system works continuously and effectively. This removes some of the old issues encountered by many existing TARDIS users with their head cooling system due to binding of filters in the fume filtration system.



The fume filtration system and the head cooling system have been addressed by ALTEK engineers to provide an upgraded head cooling system

- *Upgrade to hydraulic system*

The hydraulic system is a total re-design. Built to stringent European standards, it has removed all of the old maintenance issues encountered by previous TARDIS and ALTEK press users. It is simple in its layout, providing easy access for maintenance of critical parts, while having control complexity to ensure good quality and safe operation. Figure 2 shows the latest hydraulic systems.



2 Hydraulic system of the new TARDIS Generation 2 press.

- *Fully automatic operation*

One of the most important new features coming from the marriage of the two press technologies is the fully automatic operation of the press while having the option to also have a fully closed door.

The door and head control moving parts have been simplified.

By implementing some of the above new features it is possible to remove many of the potential old maintenance and reliability issues due to the complexity of the moving mechanisms on the presses. If you own an existing TARDIS or ALTEK press and want to upgrade with some or all of these new features, there are several options you can follow:

- Upgrade the head to a ribbed head and remove the tipped rocking head. Note: Many customers have already started to do this.
- Upgrade the head cooling and fume filtration system to improve reliability of both functions of the press.
- Upgrade the press to a fully automatic design. This is possible but more extensive in scope.
- Trade in your old press for a totally new model of press - We have a variety of rates available for the trade in presses to offset the capital of the new press. It may be your existing press is too small for your current operation.
- Simplification of all moving parts, door and head controls to new designs.

Contact ALTEK's service desk through our web site www.altek-mdy.com or your local representative or salesman if you have any questions about what is possible with your existing press.

ALTEK are also actively involved in several other products associated with total dross management including the tilt type rotary furnaces (TTRF) (in conjunction with Mechatherm International Ltd). With a combined reference list of over 50 TTRFs sold to date and a process team of commissioning specialists who have a combined 150 years of commissioning, start up and operational experience of TTRF, ALTEK are able to offer full secondary processing facilities and also effective salt (or no salt) cooling systems and waste treatment. This latter point is becoming increasingly more important as environmental drivers and economics are pushing secondary dross operators to a zero waste operation.

Reader Reply No.147



The front cover of this issue of Aluminium Times features the new TARDIS Generation II to be launched at Aluminium Essen show in September this year.

ALTEK

TOTAL DROSS MANAGEMENT SOLUTIONS

WHAT ARE YOU DOING WITH YOUR DROSS TODAY ?



Did you know that every minute you do not cool the dross after skimming; you are losing approximately 1% of aluminium from it in oxidation! Over the period of a year* this can add up to many thousands of \$\$\$\$'s

ARE YOU AN EXISTING USER AND WANT A NEW PRESS?



If you are an existing user of a dross press (TARDIS or ALTEK) and require a larger size due to an increase in your dross amounts, you can trade in your existing press for a larger (and newer model).

DO YOU HAVE AN ISSUE WITH COOLING YOUR SALT SLAG ?



Contact us today for the latest ALTEK salt slag cooling solution.

IS CAPITAL SPENDING ON HOLD? - DO YOU WANT TO RENT or LEASE A DROSS PRESS?



ALTEK are also offering rental terms** for customers who wish to trial a new dross press in their facility to assess the benefits. It is likely that the savings each month from the dross press will pay for the rental and still have money left over for extra profit !



Come and see us in Hall 7 E 40



*depending upon production level of the plant

Reader Reply No.317

**subject to meeting financial approval

Please feel free to contact ALTEK on alanpeel@altek-mdy.com if you require any further information on the above.