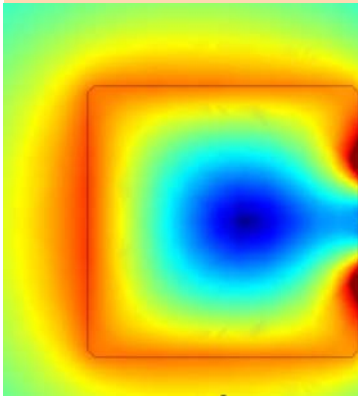


ZEROMAG *News*

The worst Arc Blow problem in the world?

Just when you thought that the magnetism encountered in pipe or plate working was difficult, spare a thought for those working in metal smelting. The magnetic fields in smelters are extraordinarily large due to the high currents (typically 300,000 Amps) used in the process. Welding in this environment is extremely difficult as the large field causes arc blow. Some shielding can be achieved using steel shrouds, but the resulting welds are very poor quality with high porosity. Further, all steel equipment around the process becomes heavily magnetised, and this includes the building structure, cranes, supports etc. This can be a real problem if upgrades or maintenance of these items is required.



Diverse has a major interest in this application. Our high powered Zeromag, ZM100A-30, and special clam coils allow good quality repair welding to steel work structure that supports cranes in smelters. However, there is also a need to carry out welding repairs directly on the busbars carrying the very high current while the current is flowing. The extremely high fields on the busbar which cause steel to saturate mean that the approach developed for the external steel work is not suitable for these repairs.

Using our state of the art magnetic modelling software we have been developing a solution to the busbar problem. This work is on-going, but we aim to have a unit for on-site trials early 2010. (The plot shown opposite is the magnetic field of the section of a bus bar carrying 250kA, with Diverse's unit in place and the magnetic field being sucked out to allow magnetism free welding).

Models (of the predictive kind!)

Ask the average welder about modelling and you will see the gleam in his eye as he thinks about Kate Moss on the catwalk. However there is a branch of mathematics that is concerned with building representations of the real world. These are called models or mathematical models.

Diverse uses specialist modelling software to design and predict the performance of its magnetic products. This is invaluable for our

customers as we can, in a few hours, evaluate their weld scenario and provide data about the best way to deploy Zeromag. As you can see from the article above, this software can be used to design new magnetic systems. This is particularly valuable because, in applications where the site access is difficult (for example a smelter or a lay barge) the performance of a system can be fully examined and assessed without actually building it. The nice thing about

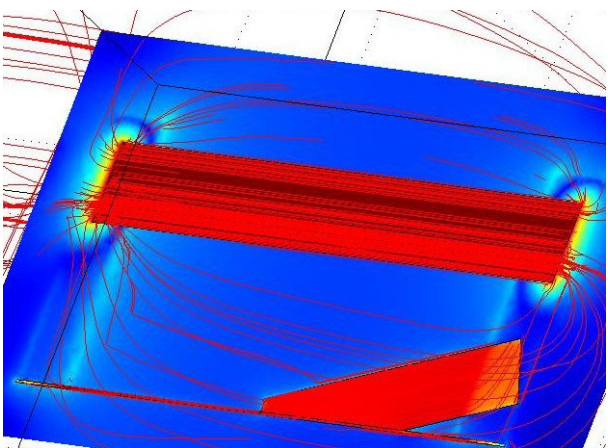
mathematical modelling software is that, in a similar way to using a spreadsheet, you can answer the "what if?" questions. For example, "what if we moved the demagnetizing coils further away?", or "what if we change to an inconel lined pipe?".

All our magnetic instruments and machines are designed and analysed



using this valuable tool. You can take advantage of this facility for assessing your welding scenario. Please call our technical team for a quotation.

Email: sales@diverse-technologies.net



Zeromag: Hire or Buy?

Zeromag is a capital investment that needs capital acquisition, purchasing, unit maintenance and calibration. Like any other asset, it is subject to depreciation and on site wear and tear. If you are using Zeromag on a regular basis this is the best route for you. However welding contracts are not often like this - they may only run for a few months and the magnetism problem may only need addressing for a small part of that time.

Diverse can supply Zeromag on a hire basis - the hire can be by the day or by the week and can be extended if the job requires it. As with purchase of Zeromag, the hire comes with Zeromag job support from the very knowledgeable team at Diverse.



Commercially the hire option can be very attractive because the welding environment is harsh and Zeromag units and probes are subjected to extremes of temperature, weld splatter, splashes of sea water etc. requiring unit maintenance. Some customers have taken units on hire and, working with us, converted their hire contract to capital equipment purchase. The point at which it becomes more economic to buy rather than hire is about 3 months.

The commercial team at Diverse would be pleased to discuss your requirement and provide you with the most appropriate Zeromag solution. (in the photo welding is proceeding with Zeromag demagnetizing cables bottom right).

Recent sales

Zeromag has recently been sold to new markets in South East Asia, Saudi Arabia and Croatia. Our geographic coverage is worldwide, including sales, support, and training.

Our recent customer in Poland had a Zeromag on hire and on-site within 48 hours and most of that time was courier and customs!

Diverse are a pro-active team dedicated to supplying the solution to your magnetism problems. We understand that when arc blow strikes a solution is required immediately. We supply products and services to customers with urgent requirements within days or even hours. We hold stock of most of our products so if you need a quick response then please call us.

DIVERSE

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News shorts...

MF301H+ Magmeter

The magnetic field meter, the Magmeter MF301H+ is now available. It has all the same features as the well proven MF300H+ instrument but has added high sensitivity range extending the resolution to 1uT (1 micro Tesla or 0.01 Gauss). At this extended sensitivity, the unit works with a restricted 1.6 Hz bandwidth to keep noise levels low.



MF500 Magnetite meter



Power station cooling systems can attract ferrous material to the inside of the pipes in a similar way to calcium in your electric kettle. The magnetite meter MF500M is designed to evaluate the amount of magnetite build up before the cooling pipe is seriously compromised. The MF500M has found a ready market in China where they are regularly bringing new power stations on line.

ZM2CLVM Clam coil Vertical mounting

A vertical mounting kit is now available for the Zeromag clam coils. This allows vertical deployment of the coils from a suspension point and indeed one clam coil from another. Applications are for vertical members of frameworks or vertical cooling pipes etc.



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