



# Company Bulletin

for EMC, EMP, HEMP & TEMPEST Protection

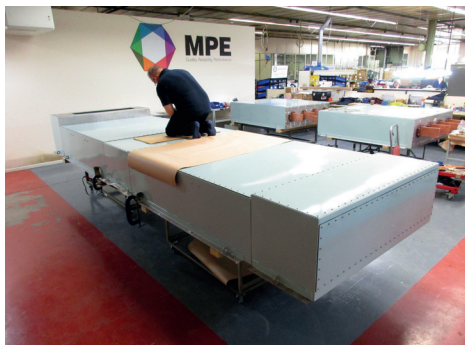
## Issue 32



High-voltage MPE power line filter



A suite of very high current (VHC) power line filters of various current ratings, including custom 2500V DC 2000A units complete with end enclosures, have been integrated into a major UK test chamber installation. Those MPE DC filter units, pictured here in situ, measure 3m high by 2m wide and weigh two tonnes.



A custom MPE 3000A very high current (VHC) EMP power line filter with TEMPEST performance

## Custom high-power solutions from MPE

Versatile custom solutions for the benefit of integrators, installers and end-users serve to underline MPE's position as the world's number one provider of high-current EMC and HEMP power line filters. Solutions provided range from 800A through to 6000A and include standard, low-leakage, three-phase and neutral configurations. What is more, in many cases MPE filters provide a far improved solution to replace existing filters from alternative sources where problems have arisen in operation.

MPE's PSpice modelling and rigorous laboratory testing give full assurance that the design of critical components such as capacitors and inductors will meet the most demanding electrical requirements prior to the commencement of any build.

High-voltage filters are a growing need for power-hungry test chambers, power plants, weapon sub-systems, ground communications, datacentres and control rooms. Homeland security has become an overarching consideration. Accordingly MPE filters for such applications are required to maintain electrical integrity and performance across a full frequency range all the way from 14 KHz to 18 GHz.

Indeed, the major challenges relating to high current and high voltage which MPE overcomes are both electrical and mechanical.

Electrically, EMC and EMP filters need to tolerate the elevated levels of ripple, harmonics and transients which may be encountered. Mechanically, challenges relate not only to physical size but also to heat dissipation and site-specific requirements such as mounting and busbar or cable entry configurations.

As important as meeting the exacting installation requirements is the absolute need to ensure that filters continue to operate, with no issues, over their expected lifetime. Many MPE high-current filter solutions have been operating faultlessly for over 20 years. In 2014 MPE had the opportunity to test a suite of its filters which had been in operational service for over two decades, and all filters were found to still perform within their original manufacturing tolerances.

MPE recently provided 80 such high-current EMP filters for a strategically important defence application in the UK. The filters were a direct replacement for previously installed filters, no longer fit-for-purpose nor compliant with current standards. Along with filter performance and track record considerations, MPE was selected as the filter provider, because of its ability to deliver all the required filters within an accelerated and remarkably short timescale of 14 weeks.

Regularly shipping such custom high-current filters and having resources to allow annual sales of up to £20 million, MPE is able to realise the best and shortest product lead times within its market worldwide. This is made possible by MPE's established supply chain, careful management of material availability and the company's agile and flexible design and manufacturing teams.

MPE understands that every application is special. So whatever questions you have about your own requirement, call MPE's team of technical experts for sound and helpful advice on +44 (0)151-632 9100 or simply email [sales@mpe.co.uk](mailto:sales@mpe.co.uk)