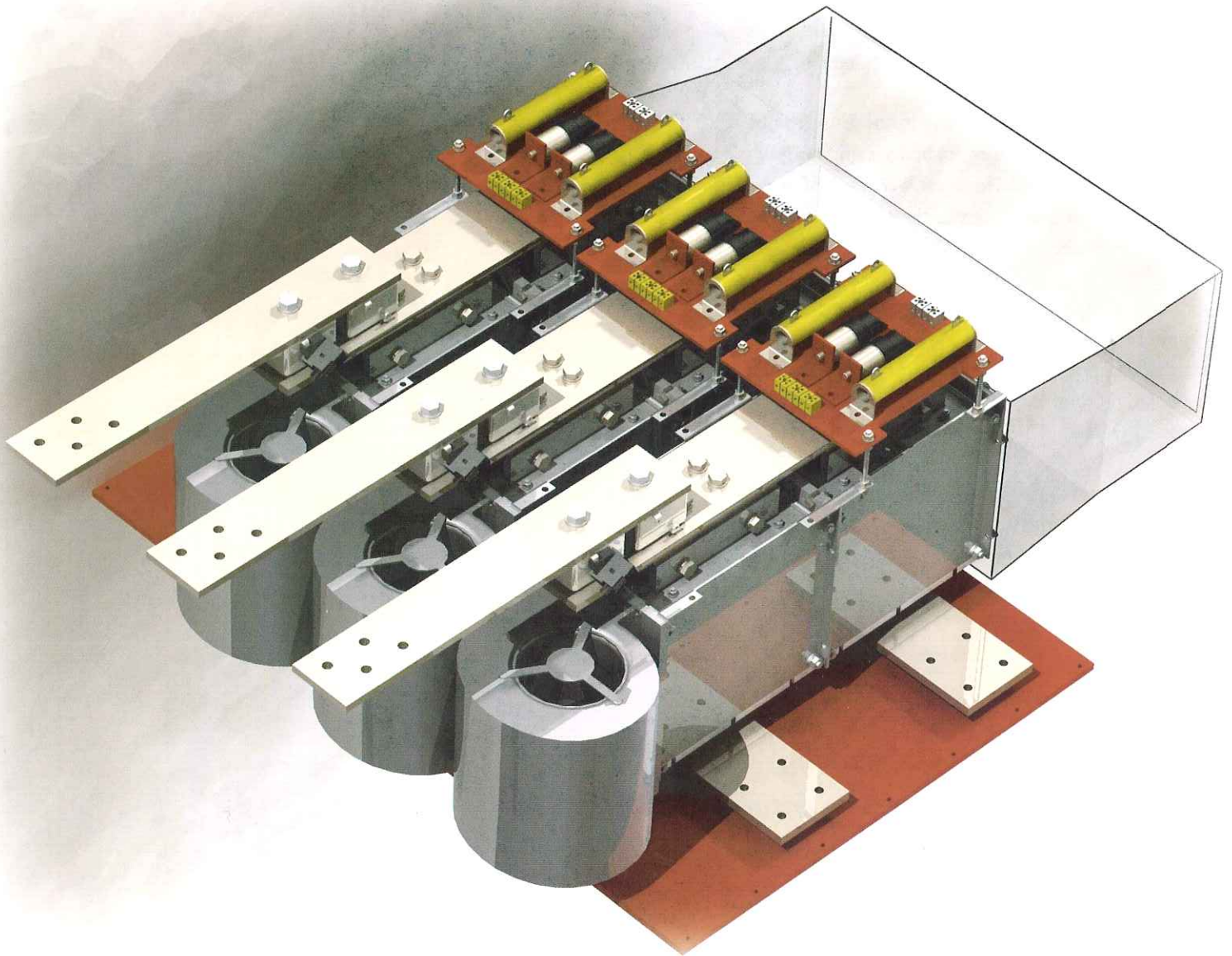


Power Electronic Assemblies Custom Solutions

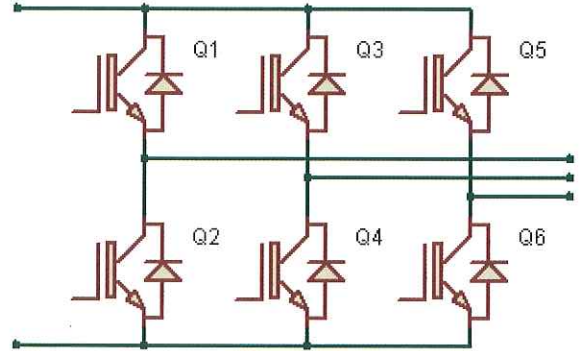
February 2007 Issue 2



Forced Air Cooled Three Phase Fully Controlled Bridge

Power Electronic Assemblies - Custom Solutions

With over 80 years of experience, our dedicated team of design engineers can deliver custom solutions to whole range of design problems ranging from simple switch applications to complicated multi-megawatt power converters.

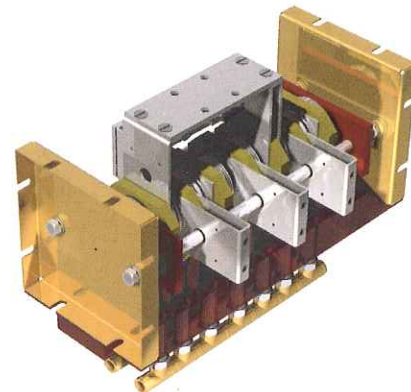
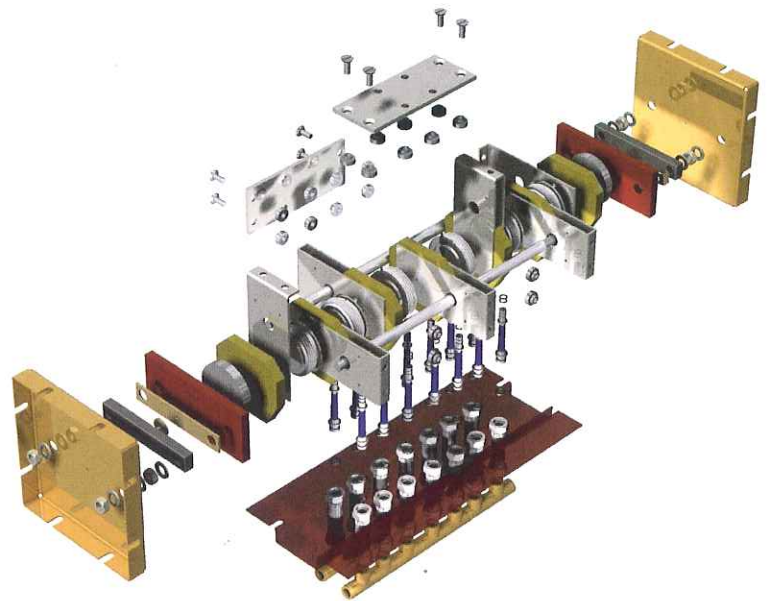


Westcodes Power Electronic Assemblies Group has been an integral part of our business since the early 1920's when we began production of the first commercially available solid state rectifiers.

With a reputation for quality and innovation, it's not surprising that our product portfolio is one of the widest in the business. However, over 70% of our power electronic assemblies business is for custom solutions.

Our dedicated team of highly experienced design engineers is on hand to provide our customers with first class support for everything from a simple air-cooled rectifier to a highly integrated custom power converter.

Utilising the latest 3D modelling techniques, we can reduce the cycle time from concept to manufacture and ensure successful system level integration into our customers equipment.



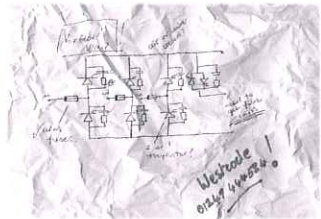
Three Phase Press-Pack IGBT inverter module
featuring isolated water-cooling

We have a philosophy of working closely with our customers to ensure that we deliver the right solution, at the right time and at the right price – first time and every time.

Power Electronic Assemblies - Custom Solutions

Drawing on our vast experience, product portfolio and industry contacts, our team is ready to work with you to produce complete solutions to your power electronic problems.

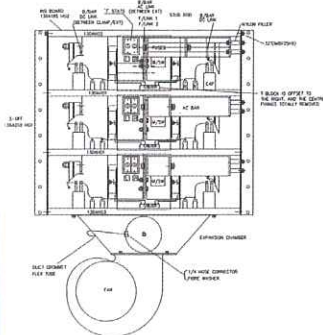
In many cases you will know exactly what you need – how it will be cooled, controlled, interfaced and implemented. However, in some cases you will have an idea, concept or problem that needs developing into a complete solution. Whatever your needs, our team of specialists, working closely with you, can provide a state of the art solution that adds real value to your business.



Step 1 - Problem



Step 3 - Manufacture



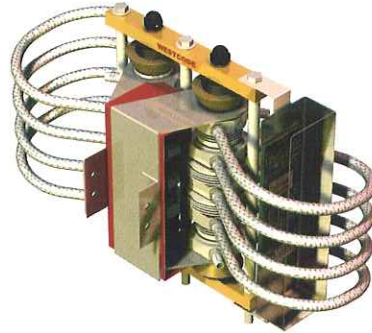
Step 2 - Design



Step 4 - Deliver

We can develop customised heatsinks, coolers, clamps, capacitors, semiconductor protection fuses, control electronics and mechanical packaging optimised to your application. Add to this our in-house expertise in all power semiconductor technologies, both within Westcode and the wider IXYS organisation, nobody is better prepared and able to deliver excellence in the field of power electronic assemblies.

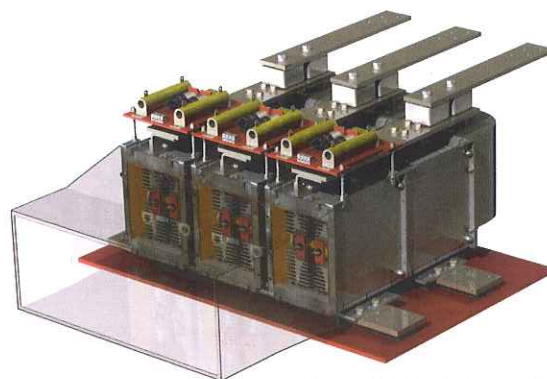
An example of this approach is this water-cooled IGBT H-Bridge assembly developed specifically for current fed induction heating inverters. This unit features bespoke Gate drive units, Clamping arrangement, and novel configuration of the laminated DC link busbars designed to give minimum self inductance.



Integrated IGBT current fed H-Bridge inverter assembly

There are several subtle concepts incorporated into this design to allow extended operational life and reliability under the high thermal load cycle duty and the exceptionally harsh environments of this application.

Another example of a bespoke design from Westcode is the Forced Air-cooled three phase fully controlled bridge 1850A_{DC} @ 55°C 500V_{RMS} line to line shown below. As part of a replacement project, the assembly was tailored to fit an existing cubicle. This solution enables overload currents of up to 3430A_{DC} for 10s.



Forced Air-Cooled Three Phase Fully Controlled Bridge Excitation Rectifier for Power Stations

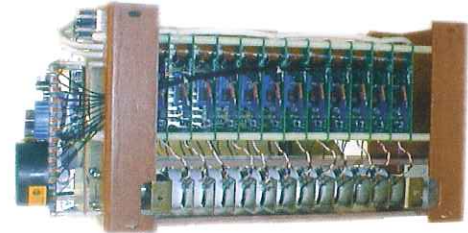
Among the many components which go to make up this complex assembly, are Westcode's phase control thyristor N4400TC280, heatsinks, fans, semiconductor protection fuses, capacitors, resistors, etc.

Power Electronic Assemblies - Custom Solutions

In almost every corner of the globe, Westcode products are hard at work keeping industry moving forward.

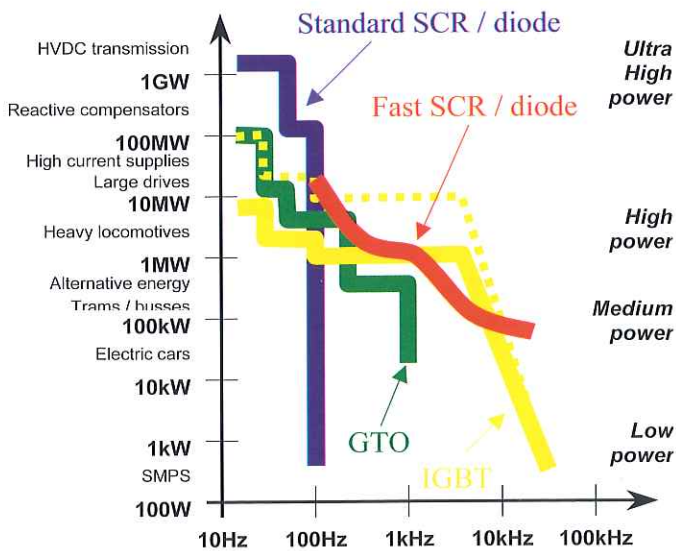
Some examples of applications of our power electronic assemblies include:

- Rectifiers
- Inverters
- Induction heating
- DC drives
- Variable speed AC drives
- Soft-starts
- Traction propulsion
- Pulsed Power
- Electric vehicles
- Electric ships
- Wind Power
- HVDC transmission
- Static VAR compensation
- Alternator Excitation



We can supply discrete parts, kits of parts or complete assemblies to your requirements.

Dedication to maintaining quality is evident in every aspect of our business.



Many applications can be catered for, from the kW range up to the GW range, at frequencies from DC up to 10's of kHz.



Westcode has achieved its global reputation based on its long pedigree of production and service excellence.

ISO 9000 2000 provides the standard against which all of our products and services are measured.



WESTCODE

An IXYS Company

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