

VBC GROUP

InterPulse Welding Technology Gas Tungsten Constricted Arc Welding



VBC Group is a UK based company operating from Loughborough, Leicestershire and Wellingborough, Northampton and exhibits at this year's SCHWEISSEN & SCHNEIDEN Welding Fair. Exposure to the Fair enabled VBC Group to successfully show case their new InterPulse technology and at the same time enter into collaboration agreements with other new welding related technology businesses; EYEREX Ltd. Switzerland, Sellstrom, USA, and CK Worldwide Inc., USA.

VBC Group is an approved joining alloy supplier to Rolls-Royce supplying aerospace grade welding wires and vacuum brazing consumables such as honeycomb and braze pastes and powders to its OEM and MRO facilities. VBC Group also supplies the land based turbine, nuclear, defense, marine, automotive and medical industries with specialist joining alloys. Additionally, VBC Group also provides vacuum brazing consultancy and aerospace welding engineering consultancy. The VBC Group Wellingborough facility manufactures the unique gas tungsten constricted arc welding power source called the InterPulse. The InterPulse process is an essential benefit to the engineering industry.

CK Worldwide, VBC and EYEREX met at the Essen Welding Fair

The InterPulse operates at 20,000Hz and produces a magnetically constricted columnar profile arc, like that of a plasma arc. This constriction of the arc reduces the weld pool cross sectional area thus reducing the overall heat input. This enables the InterPulse to successfully salvage-weld unweldable and costly superalloy precision gas turbine casting components. The constriction of the arc produces narrow weld beads along with a narrow heat affected zone which in turn reduces dramatically if not eliminating micro-fissuring.

Due to the focused heat energy of the welding arc specialist fabrication of titanium alloys can also be carried out on the shop-floor without the need for costly and capital intensive welding chambers and capital welding plant. Its use can remarkably also benefit by minimising the need for awkward trailing shield fittings. This unique welding technology from the VBC Group presents affordable and convenient metal joining solutions for advanced engineering projects and leads to

significant economic return on investment. VBC InterPulse welding technology is a significant breakthrough for welding engineers and production managers. However, it is a particularly noteworthy asset for consideration by main board directors, since its enabling features can lead to enhanced business challenges? The InterPulse can maintain an arc at 0.05 A. However, existing light sensing auto-darkening welding filters would deactivate at around 1-2 A as well as flashing on/off erratically during welding at very low amperages. Fortunately, EYEREX Ltd. displayed their unique "MAGIC" magnetic field detection system, Auto-darkening Welding Filters (ADF). This patented technology is manufactured in Switzerland under licence from Sellstrom, USA. The "MAGIC" auto-darkening welding helmet remains activated until the InterPulse arc extinguishes. This incredible ADF system control at such low current ranges allows for very low amperage and stable welding that has never been used before in a general working environment. This Auto-Darkening system provides the operator a confidence that they can weld at these very low amperage parameters

without interruption.

The Schweißen & Schneiden Welding Fair also provided the opportunity for VBC Group to collaborate with CK Worldwide, USA. CK supply quality TIG welding torches and accessories. VBC chose to use the CK Large Diameter Gas Saver, Pyrex, TIG welding gas shield. The Pyrex gas shield provides excellent visibility when compared with the conventional pink ceramic type and the large cross sectional area of the gas lens and shield (inside diameter ~29mm) provides excellent laminar argon gas coverage. When used with the InterPulse constricted arc technology and the EYEREX "MAGIC" ADF welding head shield, we do have the most advanced welding system of its time.



Hall 9.0, Booth 124

GF Welding

The company develops and offers products for robotics automation and manual applications in the automotive industry. It is focused on welding technologies applied to the product range of medium frequency, spot welding quality evaluation systems, welding controls, cabinets and software, manual trafo guns (see figure) as well as electrical and pneumatic robo-guns.

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