

## Product Development Services

*Our fluid engineering expertise in combination with our creative and innovative thinking, design, development and testing capabilities, and application focused solutions make us an ideal partner for turning your ideas into competitive products*

### To add value to your innovation we:

- Take a multi-disciplinary approach
- Integrate all functions into the design and development team
- Build upon our experience in fluid and materials technology

### Our capabilities

- Concept design and evaluation
- Physical testing and numerical modelling
- Product development from proof-of-concept to pre-production
- Factory acceptance and qualification testing
- Product and service support
- Documentation, standards and certification.



## Hydract - Novel water hydraulic valve actuator

The actuator has been developed for Danish company KM Rustfri for use in the sanitary valve market and has been designed to meet strict levels of hygiene. The product we have designed has significant CAPEX and OPEX benefits over existing (air operated) actuators as less valves are needed in a process plant, it uses significantly less energy and enables a single valve to act as both an isolation and regulator valve.

We have used our know-how in the design, testing and operation of high pressure fluid systems, coupled with our expertise in the fields of fluid-material compatibility and sealing / containment, to develop the actuator from a patented design concept to a fully qualified and demonstrated pre-production prototype.



## ACE - Explosive ordnance disposal and decommissioning

ACE employs Diajet's cold cutting abrasive water-jetting technology integrated with the manipulation and control system of our UK partner AB Precision. The unit cuts and makes safe hazardous and often unstable EODs frequently found in difficult locations. The challenge met by our designers was to develop a man portable cutting system that could be deployed without vibration and would exert a very low force when cutting.



After being selected by the UK MoD in open competition a fully productionised and tested version of this compact, highly portable and robust abrasive water jet cutting system that could be rapidly deployed by any vehicle (including helicopter) was made. The ACE system comes on a unique base load pallet and is designed to operate in harshest of environments as defined in UK Defence Standard 00-35. ACE was designed, tested and built to ISO9000 and is currently in service with the UK Army, Navy and Airforce.



## Portable FSU – Man-portable, autonomous and water lean system for fire suppression

Using our abrasive water cutting and fogging technology we have developed and patented a Portable Fire Suppression Unit that cuts through walls to then deliver water into a burning building or container as a mist. The system therefore reduces exposure of fire-fighters by allowing them to attack and contain fires without the need to enter the building, compartment or container.

Our design team have used our high pressure engineering, slurry transport and water cutting know-how to develop both wheeled and 'backpack' versions of the unit. Highly modular, and even autonomous, the units can be adapted for different conditions, such as confined spaces, high buildings, water scarce regions.

It provides a cost effective and proven first response tool deployable in standard vehicles for both fire and rescue incidents.



Head office contact information:

Telephone: +44 (0) 1234 750 422  
Facsimile: +44 (0) 1234 750 074  
Email: [contactus@bhrgroup.co.uk](mailto:contactus@bhrgroup.co.uk)  
Website: [www.bhrgroup.co.uk](http://www.bhrgroup.co.uk)

The Fluid Engineering Centre  
Cranfield, Bedfordshire  
MK43 0AJ  
United Kingdom

FS05



Global Experts in Fluid Engineering