New oil-free hydraulics leads to environmentally friendly breaker for civil engineering
Technology could end costly oil spillages and allow breaking in protected areas and underwater

New water hydraulic technology will eliminate dangerous emissions and damaging oil leaks from breakers used in civil engineering applications. Peterstow Aquapower has developed and tested a new oil-free breaker designed for use in areas such as the repair and maintenance of roads, railways and utility services.

The patented breaker operates using ordinary tap water, eliminating the risk of potential contamination or pollution from oil leakage or misting. This makes the product particularly valuable in areas which are protected, environmentally sensitive or where the field of operation is underwater. Peterstow's breaker also creates minimal airborne dust and no noxious fumes, creating a healthier environment for workers and those around them.

Most hydraulic systems require the use of oil, or an emulsion of oil and water, as the working fluid and lubricant. Almost all breakers start to leak eventually and, even when they don't, hose changes and general use inevitably result in some oil spillages. This requires reports and inspections as well as the actual clean up process, which can be very expensive and time consuming. Peterstow's patented closed-loop water hydraulic technology and modular powerpacks solve this problem by creating an oil-free system.

The closed-loop design also ensures a more efficient transfer of power to the breaker, reducing energy usage. Peterstow's powerpacks are turned on only when needed, unlike air compressors on pneumatic breakers which need to run continuously. Tests have shown Peterstow breaker use the same energy per day as many existing systems use per hour.

The hydraulic system also means no electricity running through the breaker itself, eliminating the risk of electrocution.

The technology represents the life's work of UK entrepreneurs Douglas and Alan Barrows. Douglas says: "There are many areas where existing breaking systems just aren't adequate. Using oil breakers in protected areas or underwater is not really an option as oil leaks and emissions can be catastrophic. Even in ordinary situations, oil leaks and spillages are almost inevitable sooner or later and are very costly to resolve. Peterstow's breaker uses a clever piece of new technology to offer an alternative which is both more efficient than existing systems and non-polluting".

The absence of oil and the special properties of water demand very high levels of precision engineering and exacting manufacturing standards. These are met by Peterstow's world class manufacturing plant in Ngwenya, Swaziland. The UK arm of the business manufactures plastic injection mould tooling and plastic mouldings and carries out R&D to facilitate the conversion of certain components from metal to plastic to reduce weight, cost and machining time. Peterstow also produces a closed loop drill for hard rock mining, which removes the need to pump vast amounts of water and electricity down mines.

The technology has been designed for ease of use, and can be easily repaired and maintained without the need for special tools and skills. At 24.5kg and 85cm the breaker is easy to transport and safe to handle. It offers consistently high performance with low operating costs and maximum efficiency. The water flow is 30 litres per minute at 110 bar pressure recycled through closed-loop system.

About Peterstow Aquapower

— Peterstow Aquapower has developed a unique, low energy, low water consuming Oil Free Hydraulic system for hard rock drilling and civil engineering applications.

— Operating on normal tap water and powered by a closed loop water hydraulic system these machines transform the conditions, noise levels and safety of the working environment and significantly reduce both electricity and water consumption.

— Peterstow produces a rock drill for mining applications and a breaker for civil engineering applications.

— Peterstow has a world class manufacturing facility in Ngwenya, Swaziland, and South African offices in Johannesburg and Durban. The UK office is in Cirencester, and Peterstow has an R&D team in Coventry.

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