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# Title: Uhing Drives Antarctic Research

Operating in one of the harshest environments on the planet, The British Antarctic Survey (BAS) has, for over 60 years, undertaken the majority of Britain's scientific research on and around the Antarctic continent. A component of the Natural Environment Research Council, BAS supports three permanent research stations based in Antarctica, along with two stations on South Georgia and is at the forefront of research on "the frozen continent", work that recognises that "the Polar Regions may be at the ends of the Earth but what happens there affects us all".

BAS's operations are managed and co-ordinated from their headquarters in Cambridge, UK. When a requirement for hose handling in the extreme conditions of West Antarctica was identified, BAS called on Techna International Ltd.'s extensive experience to assist in the design of a bespoke winding system to be built by ABLE Engineering Ltd.

UK and Ireland agents for another world leader, Joachim Uhing GmbH, Techna's proposal of a custom-specified Uhing Rolling Ring Drive Assembly provided the durability and reliability required for such a demanding application.



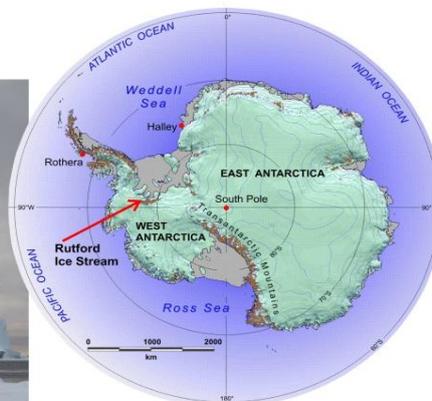
*Uhing ARG4-60 Rolling Ring Drive/ Assembly with Load Carrier  
Photo: Keith Makinson, BAS*



*The BAS custom winding machine,  
Photo: Emily Venables, BAS*



*RRS Ernest Shackleton at  
Halley Research Station  
Photo: Keith Makinson, BAS*



*Final destination;  
due to arrive 2015/16  
Image: BAS*

Having seen Uhing Rolling Ring Drives in operation at their hose manufacturers, BAS were attracted by the combination of elegant simplicity, robust performance and ease of adjustment offered by Uhing's products; vital requirements for successful long-term operations in such a remote and inaccessible location.

As part of a project to research the history and current-flow of the West Antarctic Ice Sheet and its' ice streams, BAS required a winding machine capable of handling nearly two and a half kilometres of 44mm diameter hot-water drilling hose which will be used to carry hot water to melt holes through the ice, allowing instruments to be left in the sediments and ice, to measure their motion and enable researchers to better predict future sea levels.

To facilitate the layering of the hose on the winding reel, Techna specified a Uhing ARG4-60-0MCR1FLZ5X Rolling Ring Drive Assembly to be mounted on the winder.

The unit was easily incorporated into the winding machine being fabricated by ABLE Engineering. With a stroke width of almost four metres and side thrust of 2000N, the inclusion of a load carrier on the assembly mitigates the bending and twisting moments inherent in such a large machine, increasing longevity and reducing requirements for maintenance, at typical operational temperatures between minus 2 degrees C, to minus 20 degrees C.

After successful trials in the UK, which "impressed and delighted" BAS engineers, the completed winder is currently on board RRS Ernest Shackleton headed for Halley Research Station. After weathering the Antarctic winter on the Ronne Ice Shelf it will be slowly transported, overland, to its final location on the Rutford Ice Stream, some 500 miles away. If all goes to plan the equipment should be in place sometime in 2015/16.

Techna International has spent 40 years as the UK and Ireland distribution agent for Uhing Drives and equipment. With an unmatched level of experience in winding and handling of wire, cable, tube and rope we combine this experience with world-leading products backed up by extensive R&D, comprehensive spares availability and servicing by factory-trained technicians. However severe your winding requirements, we are sure to be able to assist you.

Joachim Uhing GmbH & Co. KG will again be exhibiting at WIRE & TUBE 2014.

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