

Press Release

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RG in Antarctic PI 18-03

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Drive On the Rocks

Uhing rolling ring drive makes it to Antarctic

On a plain shaft in the icy cold. The international research project BEAMISH explores the history of the West Antarctic Ice Sheet and the motion of the fast ice streams that drain it. This requires measurements at the ice surface but also drilling into the Rutford Ice Stream. The ice of Rutford Ice Stream is well over 2000 m thick and drilling right through it is a huge challenge.

A specially built large hot-water drill which will take up to 2 days to melt down to the bed is used for this purpose. The largest parts, weighing up to 7 tonnes, are sitting on the ice. The gigantic special drill operating on the ice must run smoothly at temperatures of -30°C and withstand snow drifting and other adverse climatic conditions to ensure the polar scientists can do their job well. The Antarctic and Greenland could cause an irreversible rise of the sea level for many centuries to come. For this reason, current results of precise measurements are of vital importance for science.

This is where the benefits of the Uhing rolling ring drive come into play. The standard drive without special variants is implemented in the winding/unwinding unit for the 2000 metre long hot water line. Scientists benefit from the easy operation of the system featuring a plain shaft with mechanical wiper requiring only little maintenance. Comparable drives such as threaded spindles or chains are much more difficult to operate under these extreme climatic conditions. Rolling ring drives are friction drives which convert the constant rotary movement of a plain shaft into a traversing movement. More benefits of the Uhing® rolling ring drive principle at subzero temperatures: high dynamics at the reversal points and maximum efficiency due to roller bearings used for all joints of gear and payload.

UHING ROLLING RING DRIVE

Drive with 4 rolling rings and instantaneous reversal, scale for pitch adjustment, heavy-duty roller guide with load carriage and reinforced guide rail.

Model: ARG4-60-0MCR1LZ5X
Shaft dia.: 60 mm
Traverse width: 3,800 mm
Overall length: 4,380 mm
Side thrust: 2,000 N

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4 Pictures: Paul Anker / British Antarctic Survey (Had to be named when published!)

Legend:

Extreme application: sea level is rising faster than expected. This is why glacial motion needs to be explored precisely. Playing a vital role: tried and tested Uhing technology made in Kiel.