

Animations and Movies about AURORA BOREALIS

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Flight across the new research icebreaker AURORA BOREALIS

AURORA BOREALIS is designed as a combination of a heavy icebreaker, a deep-sea drilling ship and a multi-purpose research vessel. The operational portfolio comprises the Polar Regions during all seasons of the year as well as the open oceans. To date, no comparable vessel for year-round polar expeditions is available worldwide, neither in commercial shipping and the offshore industry, nor for scientific operations. The naval architects and engineers thus succeeded in developing the world's most advanced icebreaker with the ability to perform scientific deep-sea drilling even within closed sea-ice cover.

Atrium moon pool

Around the Atrium moon pool of 7 m x 7 m in size there are laboratories and fully equipped stowage positions for 32 mobile laboratory containers. A transparent dome on top has a special prismatic light deflection designed to supply energy saving lamination with daylight atmosphere. To load / unload containers and other scientific equipment into the Atrium the dome can be shifted for accessibility by crane. The accessibility to the moon pool from various levels supports the research from each deck.

The Atrium moon pools gives the opportunity not even to deploy gear of any size into the water but to insert also Remotely Operated Vehicles (ROV) and other most sensitive instruments. Within the air conditioned Atrium there is ideal working conditions with ice free access to the oceans of the world.

Scientific drilling

The most unique feature of AURORA BOREALIS is the deep drilling rig, which will enable sampling of the ocean floor and sub-sea up to 5000 m water and 1000 m penetration at the most inhospitable places on earth. The drilling capability will on the long run be deployed in both Polar Regions and AURORA BOREALIS will be the only vessel worldwide that could undertake this type of scientific investigation.

Drilling rig: Riserless drilling, 85 m height above keel.

Model Testing

Open Water Tests

Open water tests in summer 2008 in the Hamburg Ship Model Basin (HSVA), Germany.

Ice Model Tests

Extensive model tests in the ice tanks of the Hamburg Ship Model Basin (HSVA) and Aker Arctic Helsinki have proven that „Aurora Borealis“ is able to dynamically position in ice cover with thickness of two metres and more.