

DOI: 10.34854/ICPAF.52.2025.1.1.256

**CARRYING OUT EXPERIMENTS ON A MOCK-UP OF WATER CHANNELS TO  
PREPARE FOR THE DRAINAGE OF DIAGNOSTIC SHIELDING MODULES EP11 <sup>\*)</sup>**

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Currently, the BINP SB RAS is producing diagnostic shielding modules of the equatorial port No. 11 for the international thermonuclear reactor ITER. As part of the acceptance measures on the manufacturer's side hydrodynamic and hydrostatic tests of the water channels of the cooling system of diagnostic protective modules will be carried out. After that, it will be necessary to demonstrate the possibility of their drainage. To check the channels degree of drainage, the cooling system will be purged with dry nitrogen. To confirm successful drainage, the amount of water at the outlet should not exceed 4000 ppm.

Some channels of diagnostic shielding modules cannot be drained by gravity draining because part of the cooling system of diagnostic shielding modules is located below the drain point. In ITER, there is a procedure for blowing water with hot dry nitrogen, for which special expensive equipment is used. During acceptance tests at the manufacturer's site, such a procedure cannot be implemented.

This search work was carried out in order to develop technical solutions that allow to implement optimal dehumidification modes in the conditions of the port integrator (without the use of dry heated nitrogen). To train dehumidification and compare the effectiveness of various methods, a mock-up of the water channels of a part of the diagnostic shielding module was made, including a section located below the drain point. A number of experiments were carried out, in which chemical (dissolution in alcohol) and physical (blowing with air, pumping with a vacuum pump) were used ways to drain the layout. This report presents the results of the experiments and their comparative analysis.

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<sup>\*)</sup> [abstracts of this report in Russian](#)