

## **Design of selected subsystems for COMPASS tokamak operation**

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The COMPASS tokamak has recently started operation in Institute of Plasma Physics AS CR in Prague. It is small tokamak ( $R = 0.56$  m,  $a = 0.2$  m) with ITER like geometry. The scientific programme will be focused on edge plasma physics (pedestal properties, ELM suppression by RMP technique, turbulence studies, etc.) and on wave-plasma interaction studies.

We present the overall design of systems necessary for the COMPASS tokamak operation, i.e. - vacuum control, gas handling and glow discharge systems. Glow discharge in helium is used for the vacuum vessel conditioning before a tokamak discharge, gas handling systems provides a controlled flow of individual gasses into vacuum vessel for the glow discharge, boronization and plasma fuelling. The vacuum system is operating permanently during experimental campaigns.

These systems are controlled by two microchips with programmable firmware. The first one controls vacuum system and the second one controls the glow discharge and gas injection systems. Firmwares used in these microchips enable also control of electro-pneumatic valves, several types of pressure gauges, mass flow controllers, turbomolecular, rotary and roots pumps, shutters for ports, glow discharge electrode, UV lamp and chillers. The PC-based control enables an easy monitoring and control of all these systems.

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