

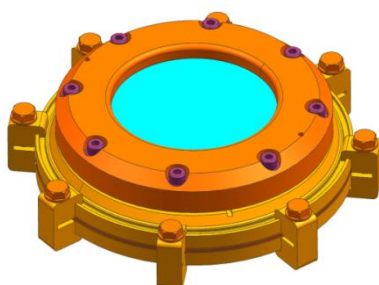
TECHNOLOGICAL OFFER - ALBA SYNCHROTRON and CLPU

NEW VIEWPORT DESIGN COMPATIBLE WITH HIGH VACUUM

A team of ALBA Synchrotron and CLPU Laser Centre engineers have developed a new design of viewport compatible with ultra high vacuum.

The ALBA synchrotron managed by the Consortium for the Construction, Equipping and Exploitation of the Synchrotron Light Source (CELLS) and the Consortium for the Design, Construction, Equipping and Exploitation of the Ultrashort Ultraintense Pulsed Lasers Centre (CLPU) are aiming at contributing to improve the industry competitiveness by offering the technological solutions developed in-house. In this case the ALBA Synchrotron and the CLPU engineers have developed a new design of viewport compatible with high vacuum, a window transparent to visible light and lasers that can be used for beam transport or other needs. The system has been developed in two different nominal diameters, 126 mm and 400 mm, of free space that contains a BK7 glass with a suitable coating that does not disturb the beam. The glass is independent of the viewport structure and a mandatory requirement is to be replaceable. The BK7 coated glass used on 200TW compressor vacuum chamber is a circular piece of 160mm OD and 15mm thickness. The viewport is divided in four elements, two structural parts, two O-rings and the BK7 glass.

The design of the viewport provides **important improvements** compared with the classic equipment in the laser field. The design is done in such a way that it does not introduce any local deformation or punctual stress which may deviate from the desired optical properties including a friendly self-centering easy and repeatable way to assembly different glasses on the viewport **reducing time and costs**.



Viewport 3D model



Viewport test assembly

ALBA Synchrotron and CLPU are the owners of the present invention and are offering it to the technological industries for its commercialization. Those companies interested, please, do not hesitate to contact the ALBA Industrial Liaison Office in the below email:

Patent Status	Spanish utility model International PCT application
Contact	Industrial Liaison Office- ALBA Synchrotron industrialoffice@cells.es