

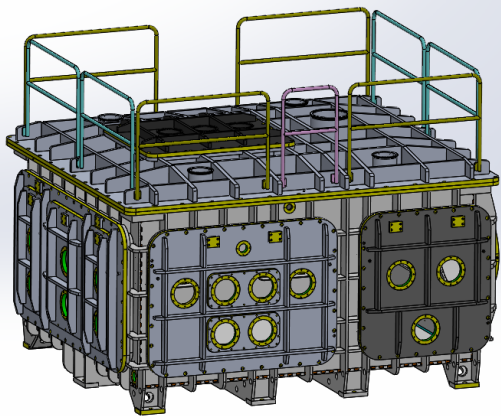
ELI-Nuclear Physics, Ilfov, ROMANIA

DESIGN, MANUFACTURING AND TESTING OF 2 ALUMINUM VACUUM VESSELS WITH OPTICAL TABLE

OCTOBER 2018 - DECEMBER 2019

SCOPE

- DETAIL MANUFACTURING DESIGN
- PURCHASING OF RAW MATERIAL
- WELDING
- INSIDE SMOOTH SURFACE FINISHING
- FINAL MACHINING
- LASER DIMENSIONAL CONTROL
- SURFACE TREATMENT (DEGREASING AND CLEANING)
- HELIUM LEAK TEST



TECHNICAL SPECIFICATIONS

- MATERIAL: Aluminum AW-5083
- VACUUM TIGHT WELD ACC. ISO 5817 QUALITY "B"
- LEAK TESTING ACC. EN 13185
 - VACUUM: 1.0×10^{-6} mbar.
 - GLOBAL LEAK RATE $< 4 \times 10^{-6}$ mbar·l/s
- CLEANING COMPATIBLE WITH ULTRA-HIGH VACUUM

APPLICATION

- STABLE/RIGID OPTICAL TABLE INSIDE WITH LEVELING AND LOCKING ABILITY INDEPENDENT FROM THE VESSEL
 - Less than $30 \mu\text{m}$ deformation when 2000 kg load applied on the optical table
- VACUUM VESSEL WITH INDEPENDENT LEVELING AND VERTICAL POSITIONING
 - Less than $250 \mu\text{m}$ deformation in any direction when applying 50 kN force perpendicular to any sealing surface
- INSIDE LIFTING DISMOUNTABLE DEVICE
 - Lifting capacity of 700 kg



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