

DØ SOLENOID UPGRADE PROJECT

Control dewar open issues

D-ZERO ENGINEERING NOTE # 3823.111 EN-355

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INTRODUCTION

In the process of developing a design for the design report, side questions or comments arose which were not completely answered or investigated because the work was outside the scope of developing a base design. I have pored over my meeting notes and tried to list all such control dewar "open issues" in this engineering note.

ISSUES

1. What is the pressure drop up the annulus past the coils of the subcooler on the two phase liquid helium return path?
2. Thermal Acoustic oscillation. Need to have checkvalves on relief lines. Also is there a problem with TAO in the vapor cooled current leads?
3. The check valve design for CDF reliefs needs to be improved if used for the D-Zero solenoid. The wires kept breaking off.
4. May want to add protection against arcing in the isolation section. Ie. Glyptol on the ceramics.?? I believe we were talking about in the secondary vacuum container.
5. Need to do ASME code calculations on liquid helium reservoir.
Comment: The vendor should supply calculations or a "U" stamp on the LHe reservoir.