

Pressure Vessel Design Calculations

All calculations following by D. Shuman, except where noted.
Apr 2, 2012

Table of Contents

PDF page #

1. Required Dimensions and Operating Parameters.....	30
2. Vessel Wall Thickness required.....	32
3. Flange Thickness required, Main Head to Vessel Flanges.....	34
4. Additional flange calculations for shielding loads, etc.....	41
5. O-ring groove dimensions.....	43
6. Support Design.....	45
7. Torispheric Head Design.....	54
8. Pressure Relief Reaction Force.....	60
9. Tolerance Analysis, Main Flange Studs.....	62
10. Nozzle Flange Design, Head Nozzles (DN100).....	65
11. Nozzle Flange Design, Vessel Nozzle (DN75).....	72
12. Nozzle Flange Design, Vessel Nozzles.(DN40).....	78