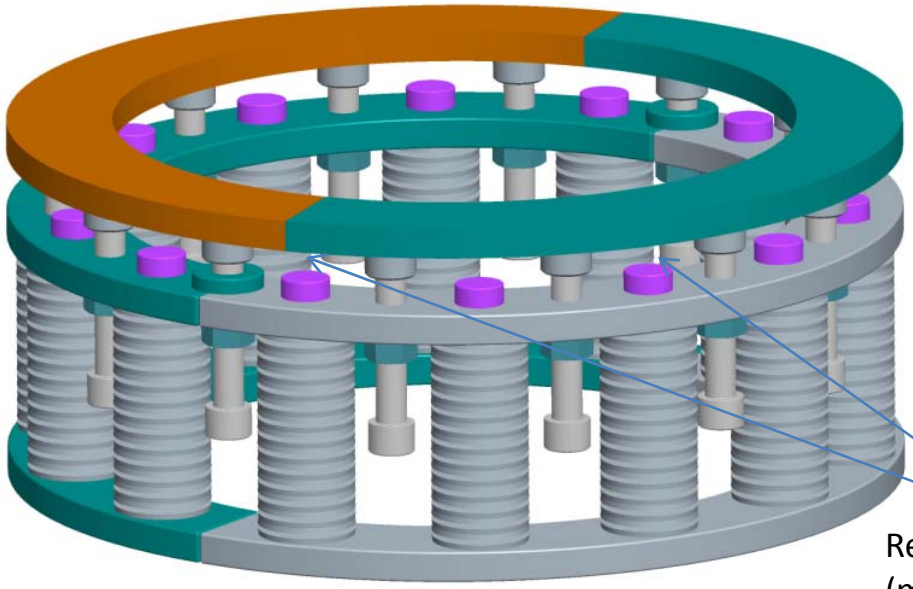
# OH Coil Pre Load System



Required gap = 23.87 mm
(maximum permitted compression on the stack. Protects overloading of permitted spring stresses. )

Spring dimensions:
26 disk springs/stack
Di = 30.5 mm
De =60.0 mm
t = 3.5 mm
Lo =5.0 mm
E = 206,000. Mpa
mu = 0.3

Required 14 stack to maintain
a minimum of 20,000. lbs.
total load on the OH coil

Note: Spring should be made from SS 301 material
Depending on Stainless Steel conditions
modulus of elasticity may be slightly different.
In this case, minimum load on the OH coil may
decrease by a small percentage ( say 3 to 4 %)
while everything else will stay the same.

Supporting calculations:

“TFhot OHcold26_14.ppt”
“TFcoldOHhot26_14.ppt”
“TFhotOHhot26_14.ppt”
“Spring Calculations in mm.xls”

# Performance Summary

And

## Input to digital coil protection system

| System scenario | Compression mm | Force on OH N | Force on OH lbs.* | Tensile Stress N/mm | Fatigue Cycles |
|---|---|---|---|---|---|
| Pre Load | 17.87 | 162,512 | 36,520. | 849. | ----- |
| TF hot OH hot | 15.47 | 142,268. | 31,970. | 731. | 2 Mil. + |
| TF hot OH cold | 9.47 | 89,698. | 20,157. | 459. | high |
| TF cold OH hot | 23.87 | 211,582. | 47,546. | 1185. | 500,000 |

Thermal expansions:

FT = 8.4 mm

OH= 6.0 mm

* Allowable OH launching loads.

Note: For supporting calculation see power point files for full details.