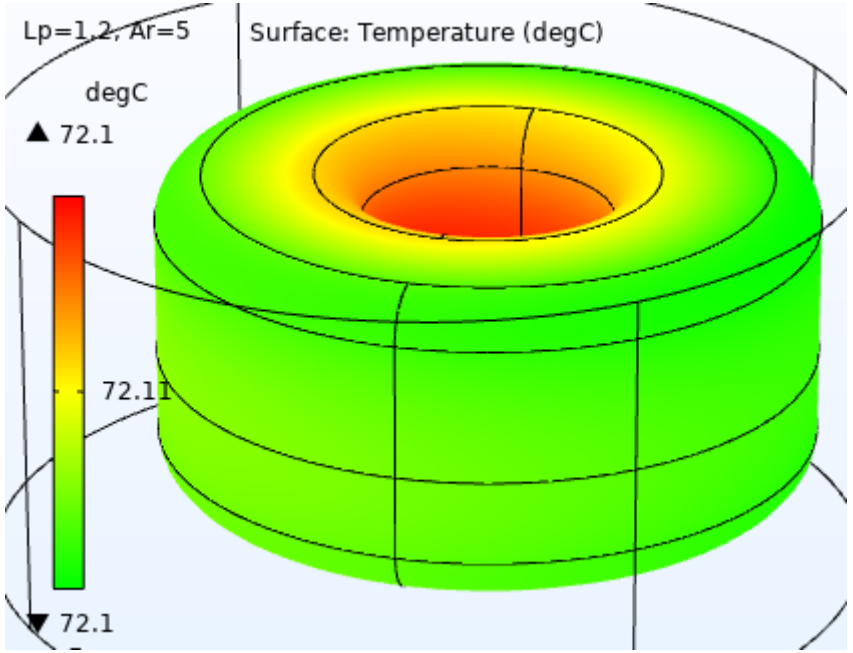
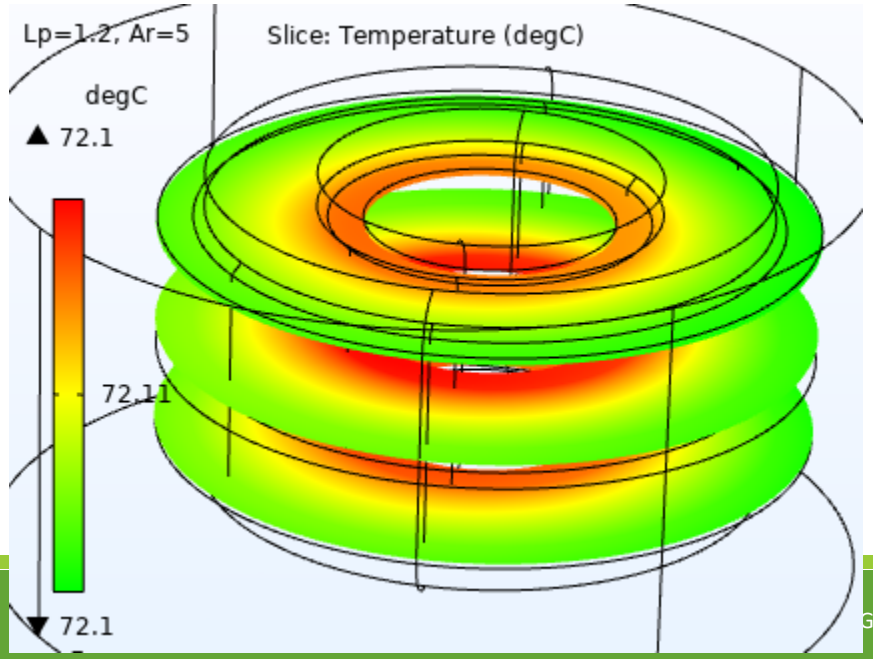
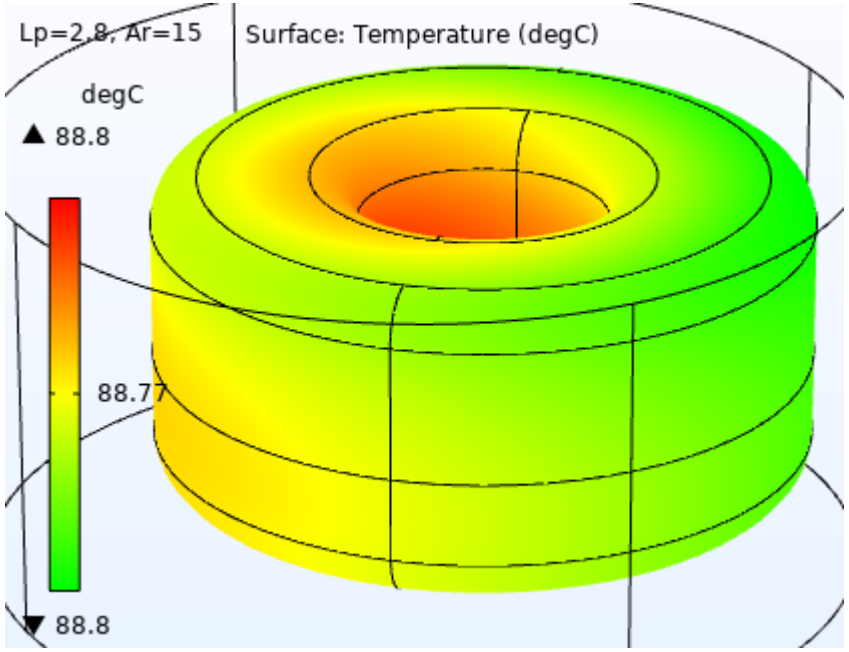
Thermal and Electromagnetics simulation – Part # HF270-681M-4AV – Current rated 4A @ 1kHz

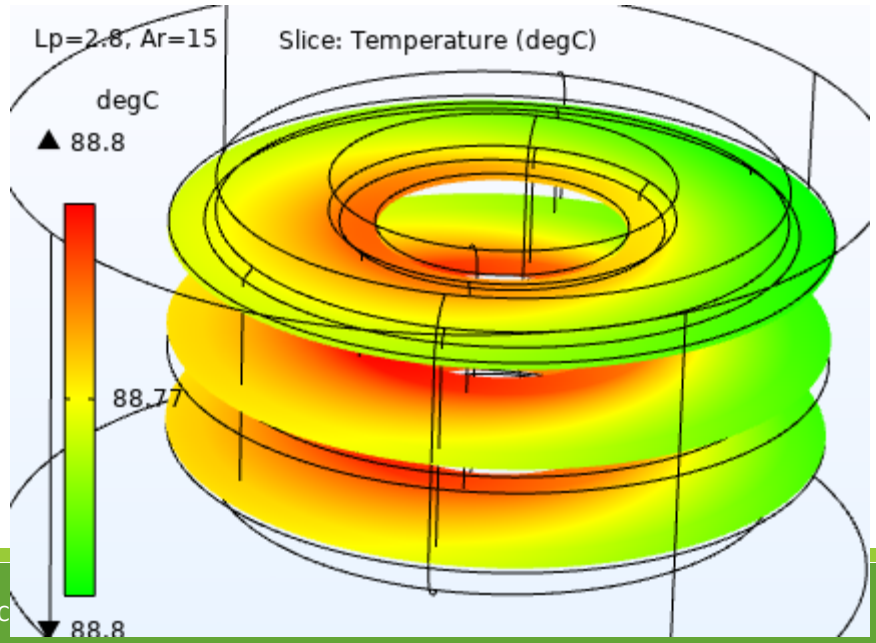
Current 30% (1.2A)
No Airflow
Natural convection



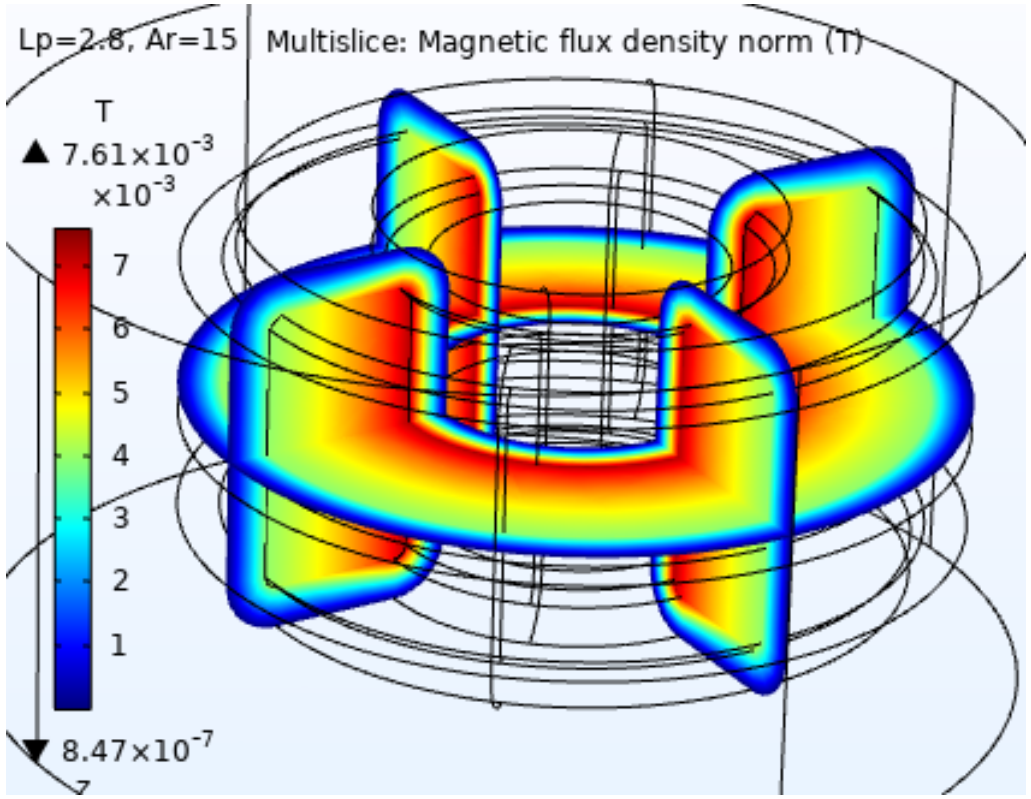


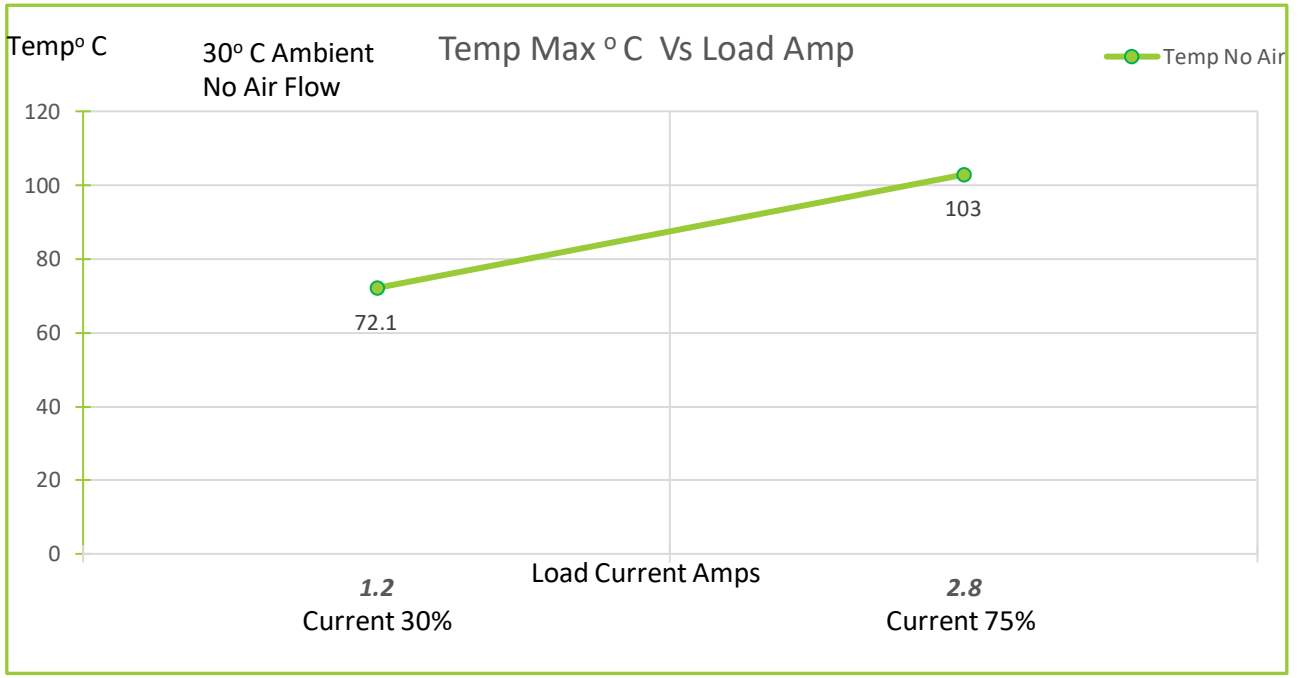
Current 70% (2.8A)
15 W/ (m^2K) or 3 m/s
air flow.

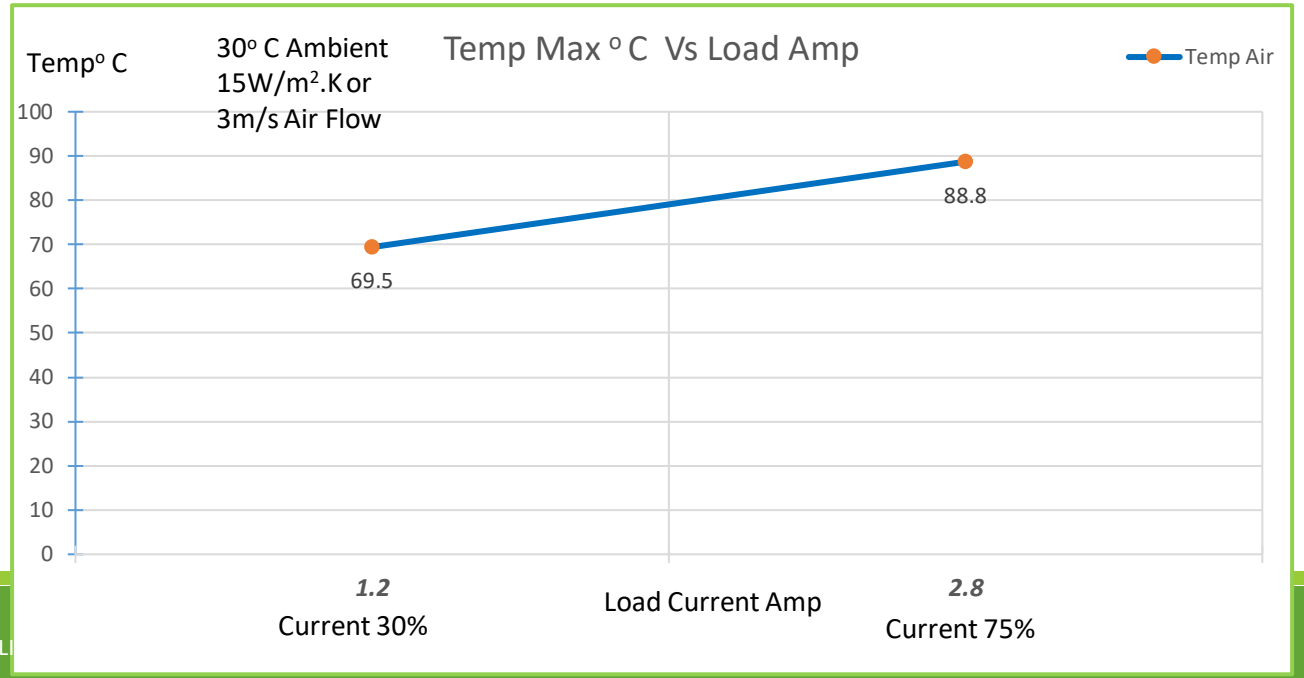




Thermal and Electromagnetics simulation - Part # HF270-681M-4AV – Current rated 4A @ 1kHz

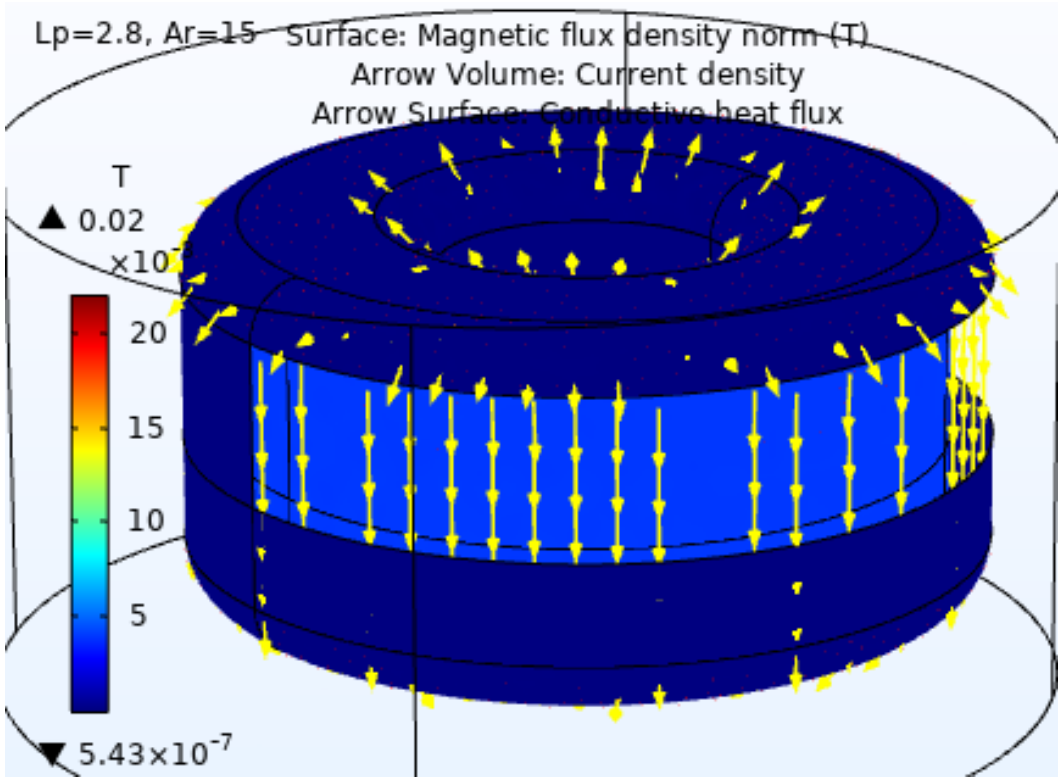




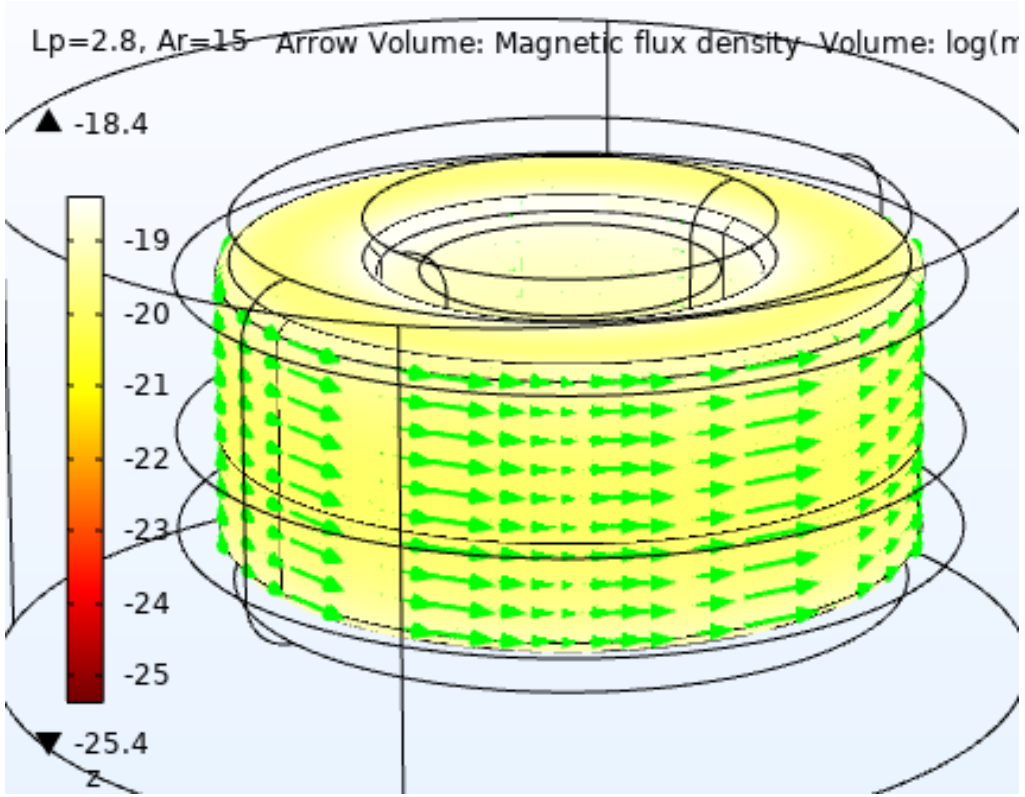


Thermal and Electromagnetics simulation - Part # HF270-681M-4AV – Current rated 4A @ 1kHz

Magnetics Flux in Coil



Magnetic Flux in Core



Abbreviations

Ld : Current rated Amps
Ar : Airflow
$W/m^2.K$: Watts / Sq meter .Kelvin – Heat Convection rate
m/s : Meter/ Second - Airflow
degC : Temperature in Deg C
T : Tesla – Magnetic Flux density
Temp : Temperature
Temp max: Temperature Maximum
Amb : Ambient Temperature
Amps : Ampere Load current.
Slice : Sectional view

Note : For the modeling purpose the winding is considered as homogenous multilayer winding .