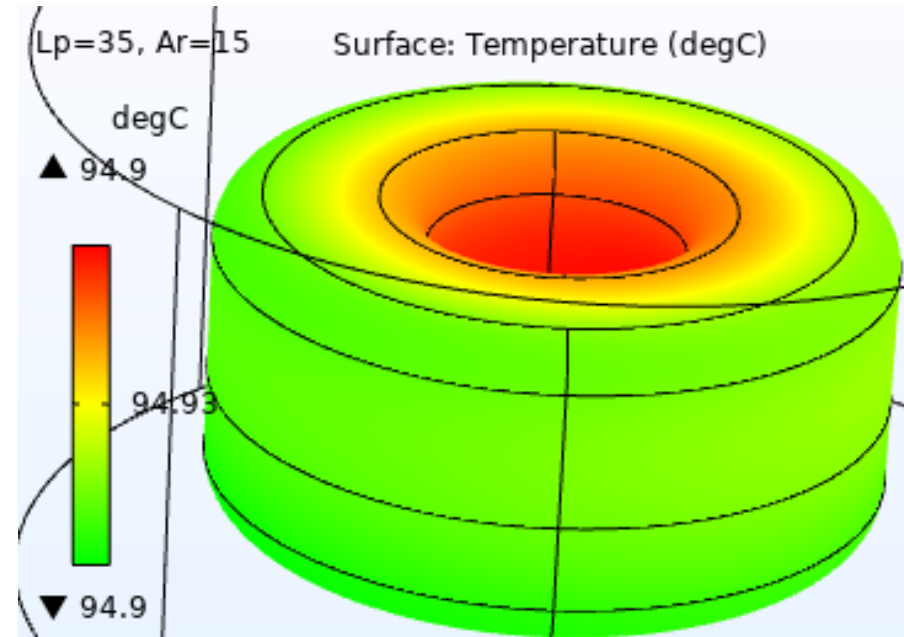
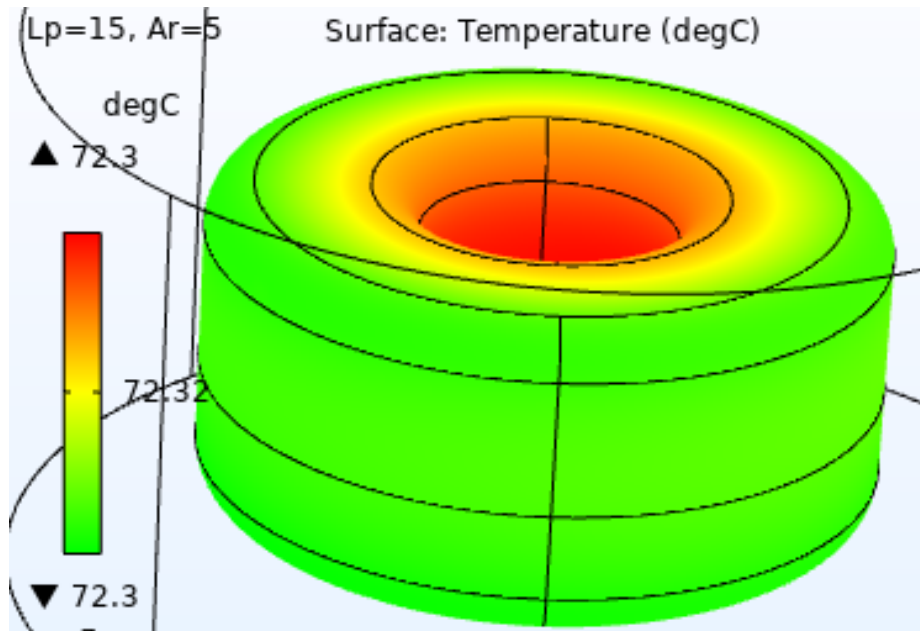
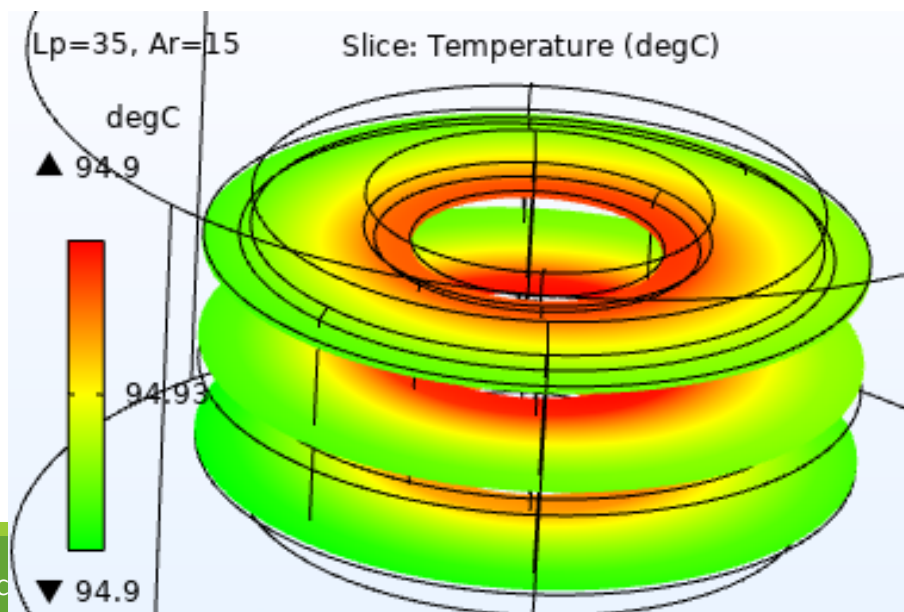
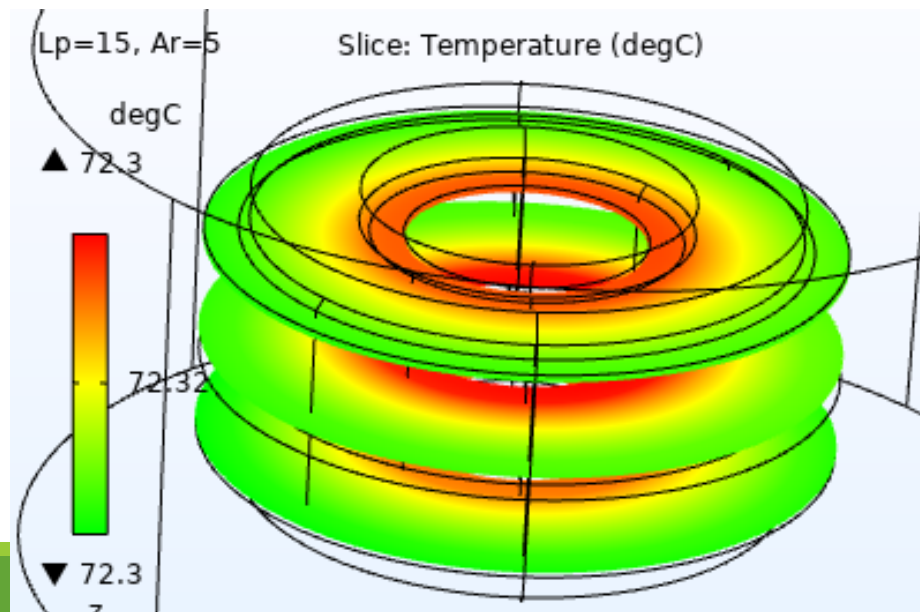


# Thermal and Electromagnetics simulation – Part # HF270-040M-50AH – Current rated 50A @ 1kHz

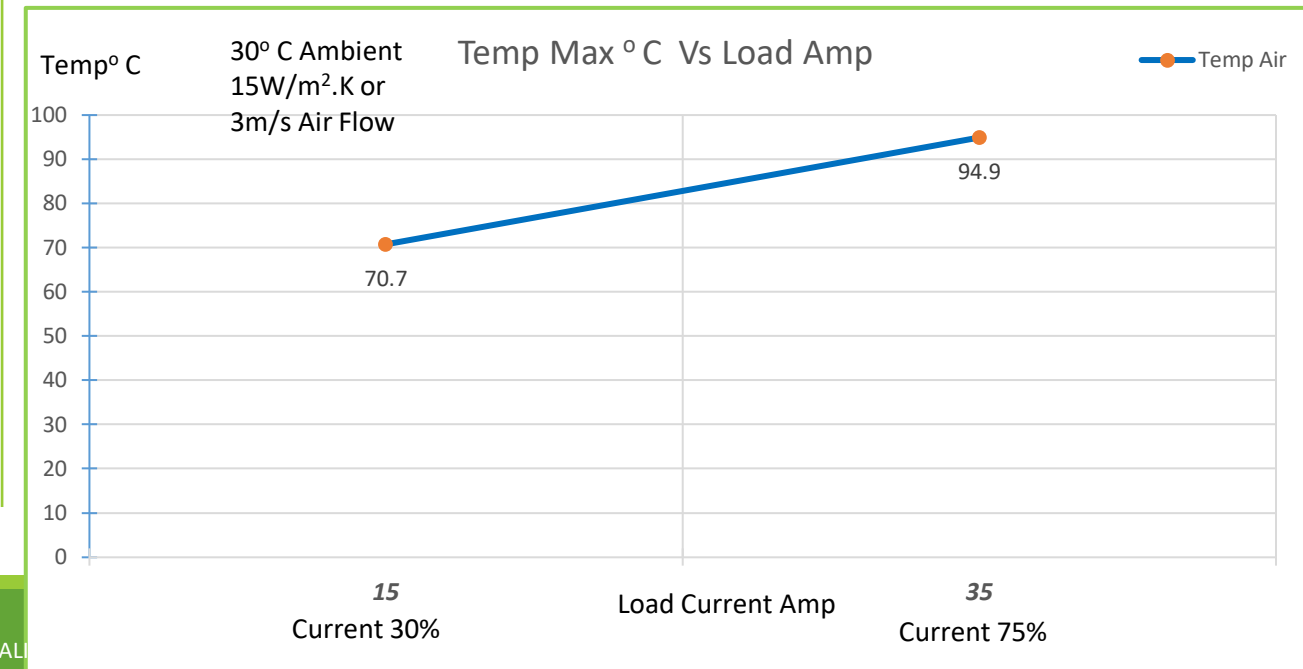
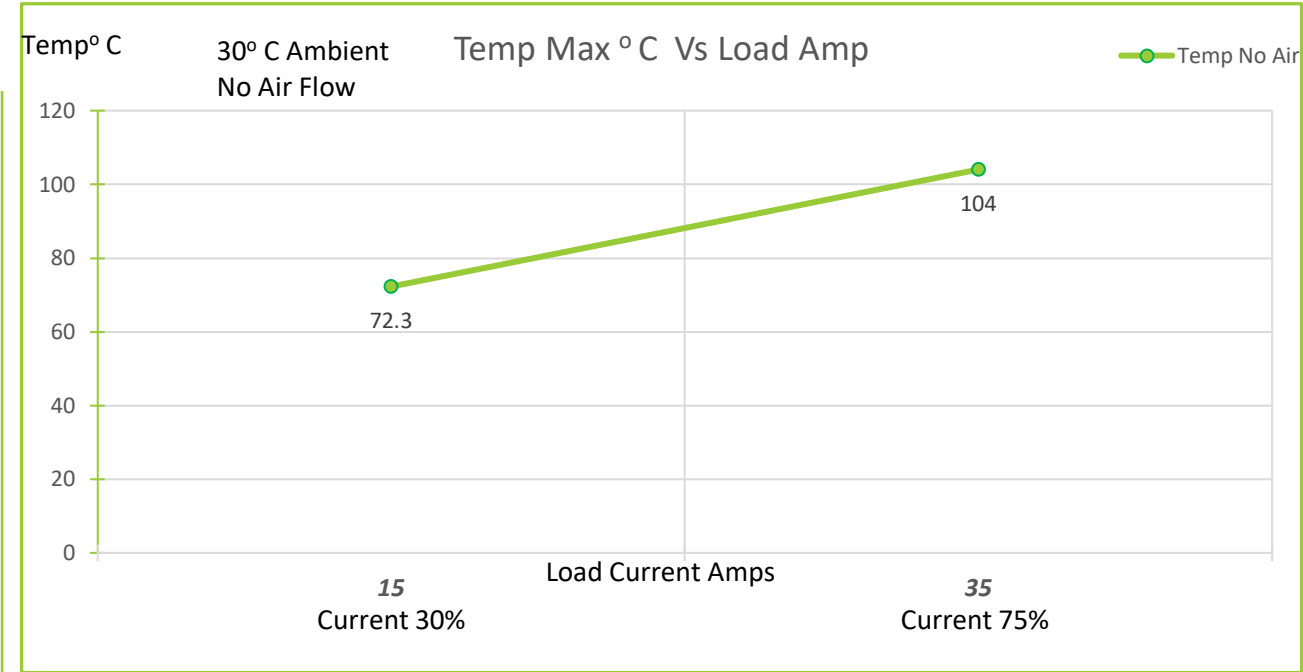
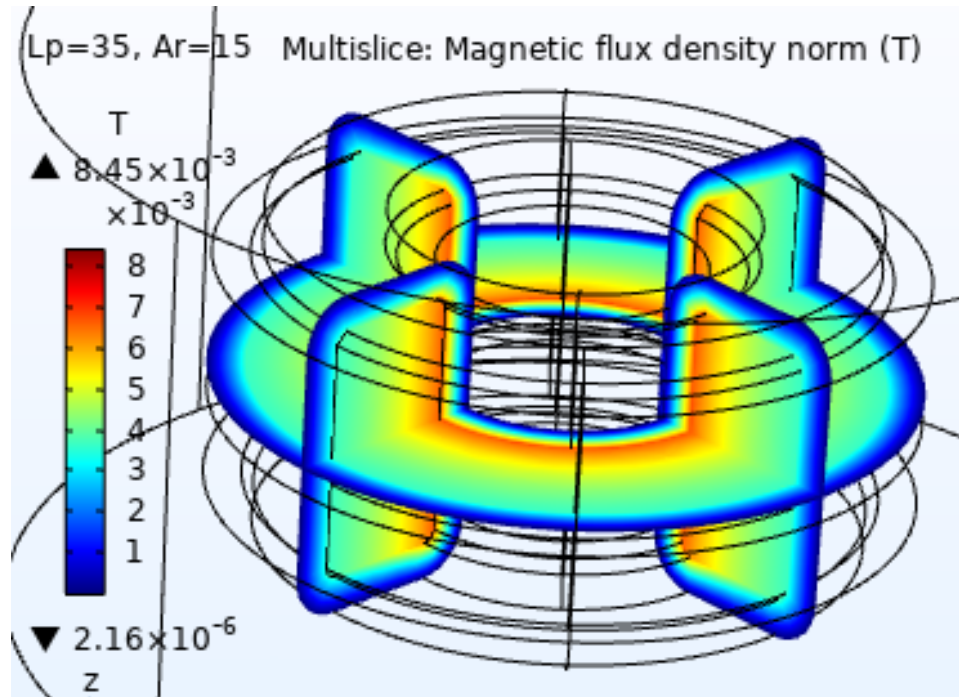
Current 30% (15A)  
No Airflow  
Natural convection



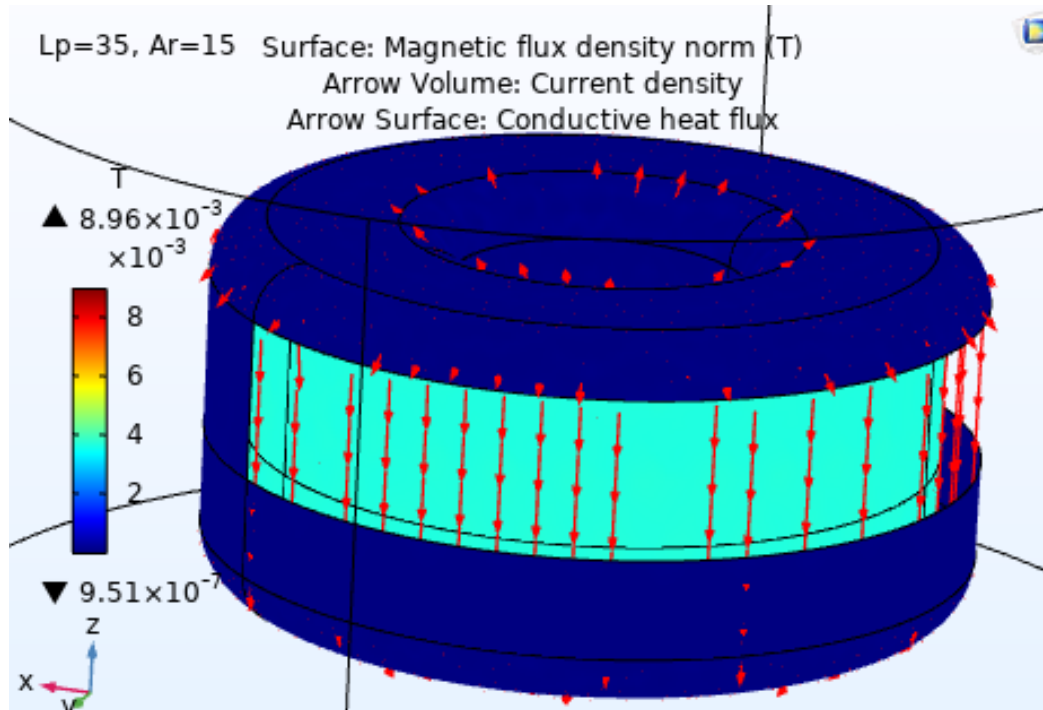
Current 70% (35A)  
15 W/(m<sup>2</sup>K) or 3 m/s  
air flow.



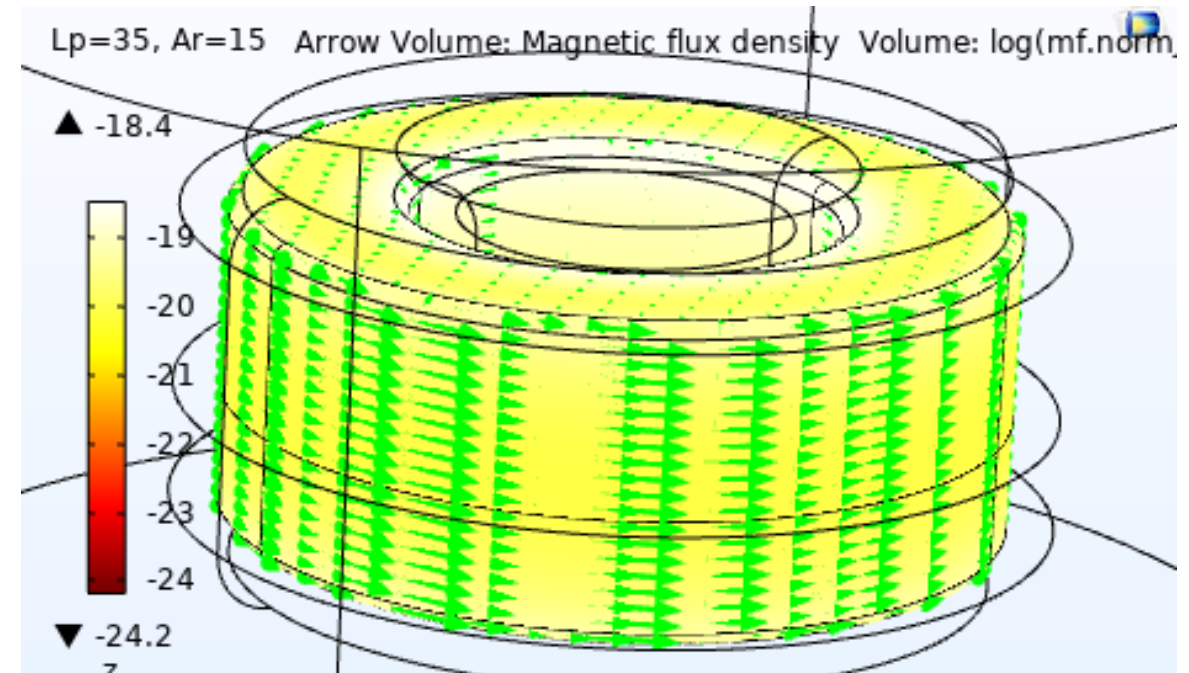
# Thermal and Electromagnetics simulation - Part # HF270-040M-50AH – Current rated 50A @ 1kHz



### Magnetics Flux in Coil



### Magnetic Flux in Core



# Abbreviations

Ld	: Current rated Amps
Ar	: Airflow
W/m <sup>2</sup> .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 .

Disclaimer :

- Simulation MODEL is an effective tool for evaluating product performance by simulation; however, it does not simulate product performance in all test environments and is not intended to be a replacement for testing of the actual device by means of a test board or otherwise.
- Simulation results are for reference purposes only; CUSTOMER shall perform thorough testing using the actual device.